

CASE 3335: Application of MONSANTO
COMPANY for an unorthodox location
Lea County, New Mexico.

CASE No.

3335

Application,

Transcripts,

Small Exhibits

ETC.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 3335
Order No. R-3010

APPLICATION OF MONSANTO COMPANY
FOR AN UNORTHODOX LOCATION, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 23, 1965, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 3rd day of December, 1965, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Monsanto Company, seeks an exception to the Special Rules and Regulations for the West Kennitz-Lower Wolfcamp Pool to drill its M. E. Maljamar Well No. 2 at an unorthodox location 1200 feet from the South line and 660 feet from the West line of Section 32, Township 16 South, Range 33 East, NMPM, Lea County, New Mexico.

(3) That a well drilled at the proposed location should result in greater ultimate recovery of oil than a well drilled at a standard location in the SE/4 SE/4 of said Section 32.

(4) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the oil in the West Kennitz-Lower Wolfcamp Pool, will

-2-

CASE No. 3335
Order No. R-3010

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 otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:


(1) That the applicant, Monsanto Company, is hereby granted an exception to the well location requirements of the Special Rules and Regulations governing the West Kennitz-Lower Wolfcamp Pool and is hereby authorized to drill its N. E. Maljaar Well No. 2 at an unorthodox location 1200 feet from the South line and 660 feet from the West line of Section 32, Township 16 South, Range 33 East, NMPM, Lea County, New Mexico.


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

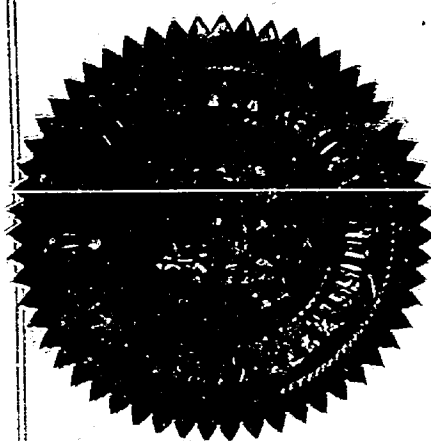
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


JACK M. CAMPBELL, Chairman


GUYTON B. HAYS, Member


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



652/

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 2088
SANTA FE

December 3, 1965

Mr. Sim Christy
Hinkle, Bondurant & Christy
Attorneys at Law
Post Office Box 10
Roswell, New Mexico

Re: Case No. 3335
Order No. R-3010
Applicant:

Monsanto Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.
A. L. PORTER, JR.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC

Other

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF MONSANTO)
COMPANY FOR AN UNORTHODOX WELL LOCATION IN)
THE WEST KEMNITZ-LOWER WOLFCAMP POOL, LEA)
COUNTY, NEW MEXICO.)

Case No. 3335

APPLICATION

Comes now MONSANTO COMPANY by and through its undersigned attorneys of record, and states:

1. Monsanto Company is the operator of the premises involved in this application; its address is 101 North Marienfeld Street, Midland, Texas 79704.

2. As an exception to the special pool rules for the West Kemnitz-Lower Wolfcamp Pool, which rules were promulgated by Order R-2559 in Case 2887, dated September 4, 1963, Monsanto Company requests permission to drill a well at a location approximately 1,200 feet from the South line and 660 feet from the West line of Section 32, Township 16 South, Range 33 East, N.M.P.M., Lea County, New Mexico, which well is to be drilled to test and explore for oil and associated hydrocarbons within the West Kemnitz-Lower Wolfcamp Pool; a plat of the area involved in this application, showing the proposed location of the unorthodox well location, and other relevant data, is attached hereto and marked Exhibit "A".

3. The unorthodox location sought herein is not based on topographical conditions but is based upon geological and reservoir configuration conditions, and upon information and belief the granting of this application will result in the conservation of oil and gas and the protection of the correlative rights of all interested parties.

4. The names and addresses of all operators (other than Monsanto Company) within a 1,320 foot radius of the proposed well site is as follows:

<u>Name</u>	<u>Address</u>
Aztec Oil & Gas Company	P. O. Box 837 Hobbs, New Mexico
Sinclair Oil & Gas Company	P. O. Box 1470 Midland, Texas
Pure Oil Company, Division of Union Oil of California	P. O. Box 671 Midland, Texas
Great Western Drilling Company	P. O. Box 1659 Midland, Texas
Ralph Lowe	P. O. Box 832 Midland, Texas

Although not specifically required by the Commission's rules, as a matter of courtesy and information, a carbon copy of this application is submitted herewith to each of the above named offsetting operators.

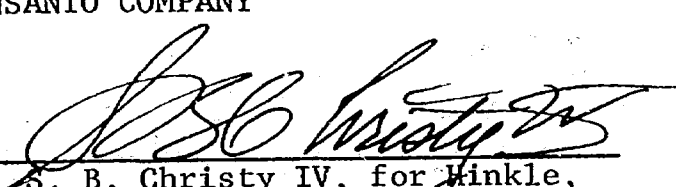
5. If this application is granted, applicant proposes to designate the well involved herein as Monsanto's N.E. Maljamar Well No. 2.

IT IS THEREFORE RESPECTFULLY SUBMITTED that this application
be set for an examiner's hearing, and upon such hearing that
permission be granted to drill the unorthodox well location sought
herein.

Respectfully submitted,

MONSANTO COMPANY

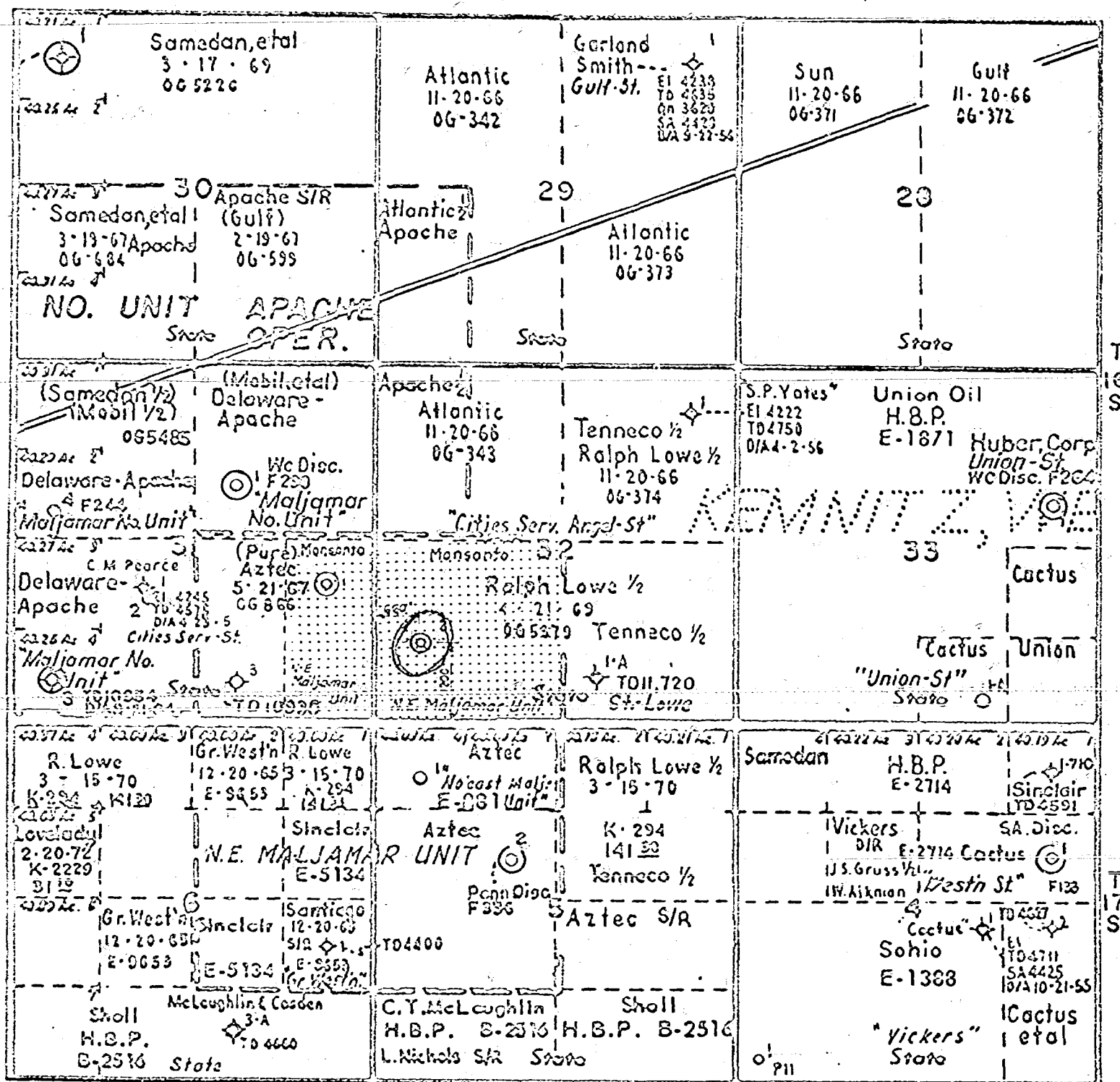
By


S. B. Christy IV, for Winkle,
Bondurant & Christy, as a member
of the firm, P. O. Box 10,
Roswell, New Mexico

cc: Aztec Oil & Gas Company
cc: Sinclair Oil & Gas Company
cc: Pure Oil Company (Division of Union Oil
Company of California)
cc: Great Western Drilling Company
cc: Ralph Lowe

FO. OF 70% W.I. OWNED BY
AZTEC, GREAT WESTERN, SINCLAIR
AND PURE TO MONSANTO SUBJECT
TO 3/32 ORR

Region 03 District MIDLAND
State NEW MEXICO D-3-373
County LEA
Field NORTHEAST MALJAMAR UNIT
Date 10-14-65 Scale 1" = 2000'



R-33-E

EXHIBIT "A"

रामचन्द्र

CLASS OF SERVICE

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WESTERN UNION

TELEGRAM

W. P. MARSHALL, PRESIDENT

SYMBOLS

DL = Day Letter
NL = Night Letter
LT = International Letter Telegram

1201 (4-60)

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is 1965 NOV 22 (20) 07

LA042 DA158

D MDA087 PD=MIDLAND TEX 22 1118A CST

=A L PORTER=

NEW MEXICO CONSERVATION COMM SANTAFE NMEX=

RALPH LOWE AS A WORKING INTEREST PARTNER STRONGLY
SUPPORTS MONSANTOS APPLICATION FOR UNORTHODOX LOCATION.

WEST KEMNITZ-LOWER WOLFCAMP POOL CASE (#3335)=

HARDIN L LANDUA.=

:=#3335.=

11-23-65
Hearing

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE

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WESTERN UNION

TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-60)

SYMBOLS

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LA104 DB281

D MDA163 RX PD 2 EXTRA=MIDLAND TEX 22 445P CST

=NEW MEXICO OIL CONSERVATION COMMISSION, ATTN DANIEL
S NUTTER= SANTA FE NMEX=

SAMEDAN OIL CORP. JOINS UNIT OPERATOR APACHE CORP. IN
OBJECTING TO THE UNORTHODOX OIL WELL LOCATION AS
PROPOSED BY MONSANTO COMPANY IN CASE #3335 EXAMINER
HEARING NOVEMBER 23, 1965=

SAMEDAN OIL CORP C W MATTHEWS DIVN MANAGER=

:=#3335 23 1965=

File Case
3335

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

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WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

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LA102 DB274

D MDA160 LONG PD=MIDLAND TEX 22 439P CST=
NEW MEXICO OIL CONSERVATION COMMISSION=
STATE LAND OFFICE BLDG SANTA FE NMEX=

ATTENTION MR. DANIEL S. NUTTER OR MR. ELVIS UTZ:=
DELAWARE APACHE CORPORATION AS OPERATOR OF THE
NORTH EAST MALJAMAR UNIT HEREIN OPPOSES THE APPLICATION
OF MONSANTO CHEMICAL COMPANYS REQUEST FOR APPROVAL OF
AN UNORTHODOX OIL WELL LOCATION 1200 FEET FROM THE SOUTH
LINE AND 660 FEET FROM THE WEST LINE OF SECTION 32
TOWNSHIP 16 SOUTH RANGE 33 EAST LEA COUNTY NEW MEXICO
THE OPERATOR BELIEVES THIS LOCATION WOULD ESSENTIALLY
BE ON A 40 ACRE PATTERN RATHER THAN THE FIELD RULES BY

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE

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WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

SYMBOLS

DL=Day Letter
NL=Night Letter
LT=International Letter Telegram

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination.

THE COMMISSION DESIGNATING 80 ACRE LOCATIONS RESERVOIR.
STUDIES PRESENTED TO THE COMMISSION HAVE INDICATED ONE
WELL WILL DRAIN EACH 80 ACRE TRACT=
JOHN H BLACK APACHE CORPORATION=

UTZ 1200 660 32 16 33 40 80 80=

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

AZTEC OIL & GAS COMPANY

2000 FIRST NATIONAL BANK BUILDING 22
DALLAS, TEXAS 75202

LAND DEPARTMENT
KENNETH A. SWANSON, MANAGER

November 19, 1965

NOV 22 1965

11-23-65
Received

Mr. A. L. Porter, Jr.
Secretary - Director
New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Mr. Porter:

Aztec Oil & Gas Company, as Operator of Northeast
Maljamar Unit, has no objection to Monsanto's applica-
tion in Case No. (3335) to drill a well at an unorthodox
location 1200 feet from South line and 660 feet from
West line of Section 32, Township 16 South, Range 33
East, Lea County, New Mexico

Yours very truly,

Kenneth A. Swanson

Kenneth A. Swanson

KAS:lbb

cc: Monsanto Company
101 North Marienfeld
Midland, Texas 79704

Attention: Mr. Bill Basil

CLARENCE E. HINKLE
W. E. BONDURANT, JR.
S. B. CHRISTY, IV
LEWIS C. COX, JR.
PAUL W. EATON, JR.
CONRAD E. COFFIELD
HAROLD L. HENSLEY, JR.
MICHAEL R. WALLER

LAW OFFICES
HINKLE, BONDURANT & CHRISTY

HINKLE BUILDING
ROSWELL, NEW MEXICO

October 18, 1965

5:14 PM
OCT 19 1965
OF COUNSEL: HIRSH M. DOW
TELEPHONE 622-6510
AREA CODE 505
POST OFFICE BOX 10

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Re: NMOCC Application for Unorthodox Well
Location for Monsanto's N.E. Maljamar
Well No. 2
Our No. 65-10-13

Gentlemen:

We are enclosing herewith in triplicate Application of Monsanto Company for an unorthodox well location in the West Kemnitz-Lower Wolfcamp Pool; we would sincerely appreciate your setting this for an examiner's hearing at the earliest possible date, advising us of the date set.

We would further appreciate borrowing a copy of the transcript in Case 2887, Order R-2559, which was the hearing on the West Kemnitz-Lower Wolfcamp Pool rules, and we will return the transcript to you in an unaltered condition within seven days from its receipt.

Respectfully,

HINKLE, BONDURANT & CHRISTY

SBC:jy
Encl.

*Good Rules
200' of the center
of the NE 1/4
or the SW 1/4
of the quarter section*

SBC Christy

DOCKET MAILED

Date *1-10-65*

Docket No. 33-65

DOCKET: EXAMINER HEARING - TUESDAY - NOVEMBER 23, 1965

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or
Elvis A. Utz, Alternate Examiner:

CASE 3294 (Continued from the September 22, 1965, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Harold J. Sechler, dba S. & S. Oil Producers, and all other interested parties to show cause why the Bond Well No. 1 located in the SW/4 NE/4 of Section 17, Township 9 North, Range 14 West, Valencia County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 3333: Application of William A. and Edward R. Hudson for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Queen formation through six wells in Sections 10, 11, and 15, Township 18 South, Range 31 East, Shugart Yates-Seven Rivers-Queen-Grayburg Pool, Eddy County, New Mexico.

CASE 3334: Application of Felmont Oil Corporation for an unorthodox location, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its Federal 9 Well No. 1 at an unorthodox location 660 feet from the North and East lines of Section 9, Township 8 South, Range 37 East, Bluitt-San Andres Gas Pool, Roosevelt County, New Mexico.

CASE 3335: Application of Monsanto Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox oil well location 1200 feet from the South line and 660 feet from the West line of Section 32, Township 16 South, Range 33 East, West Kemnitz-Lower Wolfcamp Pool, Lea County, New Mexico.

CASE 3336: Application of Shell Oil Company for special rules for the East Hightower-Upper Pennsylvanian Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the East Hightower-Upper Pennsylvanian Pool in Section 25, Township 12 South, Range 33 East, Lea County, New Mexico, including a provision for 80-acre proration units.

CASE 3337: Application of Shell Oil Company for the creation of a new gas pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new gas pool for Morrow production in Sections 3 and 4, Township 22 South, Range 34 East, and Section 34, Township 21 South, Range 34 East, Lea County, New Mexico, and the establishment of special pool rules, including a provision for 640-acre spacing units.

November 23, 1965, Examiner Hearing

- CASE 3338: Application of Socony-Mobil Oil Company, Inc. for pool-lease commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Glorieta, Blinebry, Upper-Pennsylvanian, Lower-Pennsylvanian, Devonian, Abo and Wolfcamp production from its State Bridges (Military Institute) Lease in Section 25, Township 17 South, Range 34 East, and from its State Bridges (Common School) Lease in Sections 3, 10 through 15, 22, 23, 24, and 26 and 27, Township 17 South, Range 34 East, Lea County, New Mexico, after separately metering the Military Institute production, allocating production to each lease by means of the subtraction method.
- CASE 3339: Application of Socony-Mobil Oil Company, Inc. for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Denton North Wolfcamp Unit Area comprising 2,640 acres, more or less, of Federal and fee lands in Township 14 South, Range 37 East, Lea County, New Mexico.
- CASE 3340: Application of Socony-Mobil Oil Company, Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Denton North Wolfcamp Unit by the injection of water into the Wolfcamp formation through twelve wells located in Sections 25, 26, 27, 34, 35, and 36, Township 14 South, Range 37 East, Lea County, New Mexico.
- CASE 3341: Application of Tenneco Oil Company for an administrative procedure, San Juan and Rio Arriba Counties, New Mexico. Applicant, in the above-styled cause, seeks the establishment of an administrative procedure whereby wells presently completed in the Blanco-Mesaverde Pool could, without notice and hearing, be recompleted in the Blanco-Mesaverde and/or Basin-Dakota Gas Pools by means of setting a whipstock above the Mesaverde producing interval and directionally drilling around the old interval of completion which was originally shot. Operators utilizing such administrative procedure would be required to conduct appropriate deviation tests to ensure that no well would be completed nearer than 200 feet to the outer boundary of its proration unit.
- CASE 3342: Application of Sunray DX Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Grayburg-Jackson Pool, Eddy County, New Mexico, by the injection of water into the Keeley zone of the San Andres formation through four wells in Sections 22 and 23, Township 17 South, Range 29 East.
- CASE 3343: Application of Sunray DX Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Grayburg-Jackson Pool, Eddy County, New Mexico, by the injection of water into the Metex zone of the Grayburg formation through four injection wells in Sections 14 and 15, Township 17 South, Range 29 East.

November 23, 1965, Examiner Hearing

CASE 3344: Application of Texaco Inc. for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the West Vacuum Unit Area comprising 2000 acres, more or less, of State land in Township 17 South, Range 37 East, Lea County, New Mexico.

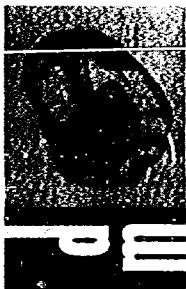
CASE 3345: Application of Texaco Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its West Vacuum Unit by the injection of water into the Grayburg-San Andres formations through six injection wells located in Sections 3 and 4, Township 18 South, Range 34 East, and Sections 33 and 34, Township 17 South, Range 34 East, Vacuum Pool, Lea County, New Mexico.

CASE 3346: Application of Sinclair Oil & Gas Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Maljamar Pool by the injection of water into the Grayburg-San Andres formations through eight wells in Section 24, Township 17 South, Range 32 East, Lea County, New Mexico.

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMAS BLDG. • P. O. BOX 1072 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

EXAMINER HEARING

IN THE MATTER OF:

Application of Monsanto Company for an
unorthodox location, Lea County, New
Mexico. Applicant, in the above-styled
cause, seeks approval of an unorthodox
oil well location 1200 feet from the
South line and 660 feet from the West line
of Section 32, Township 16 South, Range
33 East, West Kemnitz-Lower Wolfcamp Pool,
Lea County, New Mexico.

Case No. 3335

BEFORE: DANIEL S. NUTTER, Examiner

TRANSCRIPT OF HEARING

MR. CHRISTY: Sim Christy for Monsanto Company. I have two witnesses. We will take Mr. Warfield first, please.

(Witnesses sworn.)

(Whereupon, Applicant's Exhibits 1 through 8 marked for identification.)

ROBERT G. WARFIELD, a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CHRISTY:

Q Would you please state your name, address, by whom you are employed and in what capacity?

A Robert G. Warfield, I live in Midland, Texas, and I am employed by Monsanto Company as a geologist.

Q Mr. Warfield, have you previously testified before this regulatory body and had your qualifications accepted as a geologist?

A Yes, I have.

Q Are you familiar with the application in Case Number 3335 before the Oil Conservation Commission and what it seeks?

A Yes.

Q And are you familiar with the wells in the geological area involved in the application?

A Yes, I am.

MR. CHRISTY: Any questions concerning the

qualifications of the witness?

MR. NUTTER: No, sir.

Q (By Mr. Christy) Now, Mr. Warfield, briefly, what is sought in the application, 3335?

A We seek an unorthodox location to drill a well to the Kemnitz Pay in the West Kemnitz Field at a depth of approximately 10,900 feet. This location we request to be 1200 feet from the south line and 660 feet from the west line of Section 32 of 16 - 33.

Q What is "unorthodox" about the location?

A The original field rules provide for drilling wells to the Kemnitz Pay and this field is on the standard 80-acre spacing with a 200 foot tolerance from the standard location and we request an excess of the 200 foot tolerance, that is, tolerance for geological reasons.

Q That is the exceptions we are asking for is the 200 foot tolerance from --

A Yes.

Q We are not asking for a change. It also provides for locations in the northeast and the southwest of a particular quarter section. We are not asking to move out of our normal 40-acre tract?

A We're not asking to get our pattern on a 40-acre basis. We are still within the proper 40-acre tract.

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO
1213 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO

Q Now sir, I would like for you to refer to Applicant's Exhibit One and ask you to please identify the exhibit and briefly explain it to us. Identify it for us first, please.

A Exhibit 1 is an east-west correlation section. The index map is at the bottom of this exhibit and the line of section goes from the West Kemnitz Field to the Huber well in Section 33 to the Kemnitz Field into the east. The purpose of this exhibit is merely to show the Commission correlations of the Wolfcamp Section and to establish that the pay in the West Kemnitz Field is the same geological formation that is producing in the Kemnitz Field.

Q Now sir, I believe this same type of presentation and evidence was made in Case 2887 before this Commission which was the case to adopt the temporary rules in the West Kemnitz and at that time they made a corollary between the West Kemnitz and have you read that case file?

A Yes, I have.

Q Do you concur in that testimony?

A I do.

Q And this further evidences that fact?

A It does.

Q It does. I see, sir. All right, sir. Is that all that needs to be depicted in Exhibit 1?

A I believe so.

dearney-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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1213 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO



Q Simply a correlation between the two figures. All right. Would you refer to Exhibit 2 and first of all identify it for us. What is it?

A Exhibit 2 is an isopac of the marked log porosity in both the West Kemnitz Field and Kemnitz Field. We are showing both of these fields because we're going to make some comparisons between them. We feel that they are geologically comparable. This map shows that the thick porosity or the core -- it has been called a "fairway", I believe, in previous testimony -- porosity in Kemnitz Field occupies approximately the south third of the field. You will notice in West Kemnitz Field, also, that there is a maximum thickness or porosity that occurs at the Apache Number 2 Well located in the southwest quarter of Section 31. You will also notice that there is quite a variation in the porosity and thickness. The maximum porosity develops so far in West Kemnitz Field is somewhat less than we find in Kemnitz Field. Also, that the core or width of thick part is somewhat thinner in the north-south direction. I intend to make -- show the Commission that recovery of oil depends largely on the amount of clay encountered in a particular well bored with this exhibit and with the exhibit which will follow.

Q I also notice that there is -- Kemnitz is quite large compared to West Kemnitz. Does this have any evidential



value as to what you are trying to do?

A Yes. It's large both horizontally in length and width and also in thickness.

Q Now, I believe it might be helpful if we take Exhibit 3 and keep Exhibit 2 before us, and would you identify Exhibit 3 for me, please?

A Exhibit 3 is a map which shows, in Kemnitz Field, cumulative production of the wells to 3-1-65. This is about an eight-year history so we have cumulative figures that reflect pretty well the character of these wells. They are contoured in 100,000 barrel units and I think you will notice that there is a close correlation between the maps, Exhibit 3 and Exhibit 2, which show the wells that encountered a thick pay section also have much larger cumulative recoveries than wells which have a thinner pay section.

Now, referring to and comparing West Kemnitz Field which is more recently discovered, we couldn't use cumulative recoveries to show this comparison because the wells are more recent and there is approximately a year time lapse between Apache Number 1 well and Apache Number 2 which would distort cumulative recoveries. So, in this more recent field, I used average monthly production to make a comparison taking the cumulative production to date and dividing it by the number of months since the well was potential. This also shows the same

relationship between net porosity encountered in the well bore and the performance of the well to date. The Apache Number 2 well having averaged a 6600 barrels per month since completion compared to only 2,481 barrels in Apache Number 1 which has less than half in the amount of porosity. We see in both fields that wells that are close to better porosity do not seem to benefit from being this close. And in order to justify drilling a well, it is very necessary in choosing the location to drill to try to get the maximum vertical porosity development in order to get efficient and maximum drainage from the tract being drilled.

Q All right, sir. In Exhibit Number 1 we correlated the Kemnitz with the West Kemnitz and Exhibit 2 the porosity and the fairway problem here in Kemnitz and what we are planning in West Kemnitz and in Exhibit 3 the fact that the cumulative production appears to grow greater with greater porosity, vertical porosity. Is that correct, sir?

A Yes.

Q Now, I refer you to Exhibit 4 and ask you, if you will, please identify that for us?

A At this point I have some large-scale logs which show -- I think this is the best one. I have marked on these logs the top and the base of the gross Kemnitz limestone pay and also indicated are perforations.



This is the Monsanto Number 1 Northeast Maljamar Unit, the well we previously drilled in the northeast quarter of the southeast quarter of Section 31.

MR. CHRISTY: For the purpose of the record, I will mark that "Exhibit 6." All right, sir, that is the log.

Q (By Mr. Christy) Now referring back to Exhibit 4.

A Exhibit 4 is a structure map contoured on the top red lime. Down along is the top of the limestone unit and both West Kemnitz Field and Kemnitz Field.

You will notice that in West Kemnitz Field, which I have contoured here on a 20-foot contour interval, that there is rather steep southward dip in the field and by northward from a standard location we gain 35 to 40 feet of structural advantage on the top of this thing.

Q That is, you will have 35 more -- 35 or 40 feet more vertical porosity which you have mentioned in Exhibit 3, is that correct, sir?

A In this case I'm not talking porosity now, I'm talking about the top of the unit.

Q I see. All right.

A We will encounter it 35 -- 40 feet higher than at a standard location.

Q All right.

A In Section 31, the Aztec Number 3 well encountered a



show of oil along with some water in the Kemnitz Pay and this well you will also notice is very close to the Apache Number 2 well, the best one in the field. Now, we feel like have to have maximum porosity high to the Aztec Number 3 well because of the water they encountered and I think we should refer to the next exhibit.

Q Will you identify Exhibit 5 for us?

A Exhibit 5 is a north-south cross section. The index map -- the line of this cross section extends northward through the standard location, through the location that we are asking for, and through the Aztec Number 1, Northeast Maljamar unit well, Section 5. Other wells in this field have been projected into this line of section along the strike as shown in Exhibit 4.

I feel that this section will show why we are asking for the unorthodox location in graphic form. The vertical scale on this section is one inch to forty feet. The horizontal scale is one inch to one hundred feet. All of these logs are measured on this section accurately to that scale.

You will notice on the fourth log from the left I have drawn a vertical line and it's labeled "South Line of Section 32-16-33." We have shown the standard location 660 feet to the north. We've also indicated allocated location, the 200 foot tolerance line and we've indicated the proposed

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location also to scale.

The logs used on this cross section are marked logs. The perforations have been indicated and some of the drill stamp tests over the Kemnitz Pay.

You will notice that the Apache Number 1 well on the left-hand log has several zones, ten zones of porosity. Monsanto Number 1 well just south of it on this section also has ten interbeds of porosity. The Apache Number 2 well, which is the best well in the field, has much thicker and much better porosity development which we feel is close to the axis of the maximum porosity development in this limestone reef or bank.

Now, the Aztec Number 3 well shows two sets of perforations. Now, out of the lower set Aztec recovered both oil and water both on drill stem tests and after they ran pipe and had acidized pay. So, I have drawn a line at the top of the lower set of perforations and which is designated in red at a minus 6808 datum. We feel that the only porosity encountered above this line would be effective pay and that below this line would be both oil and water, probably.

We want to discuss also the Ralph Lowe, Number 1 Northeast Maljamar unit which is the next log to the south. This well was originally completed in the Kemnitz lime pay potential there as a producer. It produced a little over 1400 barrels of oil from the Kemnitz pay. Later they perforated

the zone from 10,394, recompleted the well on this higher zone.

MR. NUTTER: That's the top of the perforation?

THE WITNESS: Yes.

So, the Ralph Lowe well did produce from the Kemnitz pay although it made very little oil and there was some water encountered in this zone also as shown by their potential.

Q This, of course, would indicate that the entire 80 acres involved in this application is susceptible to production?

A Yes.

Q That well being south of it?

A We feel this well being 660 feet south of our 80-acre proration unit establishes that the Kemnitz pay is present under all of our acreage.

Q All right, proceed. Now, would you discuss, very briefly, the difference between your allocated location and your proposed location with respect to porosities, vertical porosities.

A You will notice in the Apache Number 2 well on the cross section essentially all of their porosity except possibly the lowermost zone is about the oil/water contact. In that Aztec Number 3 well projected into this on the monosection shows a relatively tight zone, claimed limestone was clean to the top of this unit.

We feel that the porosity dips very accutely between

these two locations and I labeled this "clinoform edge" on my isopak porosity map. This is very characteristic of a base and the front edge of a reef. The porosity in the back reef area is usually feathered or indistinct zones and then the maximum porosity builds up at the front edge of the reef and there is a clinoform slope, a very steep slope off of this maximum development into the pay section. I think this steepness of the porosity slope can be well established by the fact that the Aztec Number 3 well is so close to the Apache Number 2 well and we could expect the same relationship on the 80-acre tract we intend to drill.

Q Well sir, based on the material that you have discussed here, -- incidentally, these were prepared by you or under your direct supervision?

A Yes, they were.

Q Would you have an opinion as to whether or not it would be in the interest of conservation and the protection of the correlative rights of the interested parties to grant an exception to the 200-foot rule in the West Kemnitz Pool Rules?

A Yes, I do.

Q Now, one last question Mr. Warfield, if the application is not granted, would you recommend to the company to drill the allocated location shown as Exhibit 5?

A Would you repeat that?

Q Would you make the recommendation that the allocated location be drilled?

A No, I would not.

Q Now, is there anything that I haven't gone over with you in these exhibits or anything else you think the Commission should be made aware of, some geological matter?

A I would just like to state that in general the reef that we have in West Kemnitz Field is a smaller reservoir than what we have in Kemnitz Field. We know there is this steep front edge to the porosity. We know that our first well is an 80 to 90 barrel well of questionable economics and in order to drill another well, it is very necessary to state your location on exact footage in order to get the maximum porosity development.

Q Is that all?

A Yes.

MR. CHRISTY: That's all from this witness.

MR. NUTTER: Is there any questions of the witness?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Warfield, you stated that this second well from the right on your Exhibit Number 5 that was drilled as the Ralph Lowe, now it's marked "Unit Number 1" produced a little over 1400 barrels from the Kemnitz Pay. How much water was it

producing when it was making that 1400 barrels?

A I don't really know. I believe the potential -- they potentialled it for over 300 barrels of oil and I think about 60 barrels of water. I don't know that the water was put.

Q How long -- was it 300 barrels initial potential?

A That's right. It was over 300.

Q It must have only produced about three or four days then?

A They issued production. It was in the production book for two months. It was within two months that the recompletion was made.

Q But they didn't report any water production?

A I don't believe so. I could be wrong. I just don't think so.

MR. CHRISTY: Mr. Anderson, I believe, will be able to answer that.

MR. ANDERSON: I could give you a little more detail on that than Mr. Warfield.

Q (By Mr. Nutter) Mr. Warfield, what exactly do you have to offer to show that the south 40 here is productive of oil from this pool, I mean from this well that made 1400 barrels?

A Well, we believe -- I think that the Aztec Number 3 well produced both oil and water from this zone although they didn't make a completion. They did not plug the well. They

ran pipe and temporarily abandoned it. But there is oil at that location and the fact that Aztec's first well that far south of our lease line found oil in the Kemnitz Pay indicates that there is a reservoir under the 80-acre tract whether or not a successful completion could be made there. Also, could I mention one other well here that I haven't talked about, the Tenneco Number 1-A, State Lowe.

Q To the east?

A To the east. That's a dry hole and you will notice on the maps it is a low well structurally and has very little porosity yet they tested 1880 feet of mud cut oil which indicates also oil at that location. And why they got oil without water at a lower point than the Aztec Number 3, I don't know but it does indicate that the reservoir covers an extensive area.

Q Well, all of the indicated porosity on this Ralph Lowe well is below your oil and water; however, now, isn't it?

A I wouldn't call that an oil/water contact as such. I think it's a point at which you have an oil, probably an oil/water phase and whether or not that is a uniform line along the south edge of the field, I think, would be hard to establish because I think the porosity that probably is not in an extensive area, water bearing porosity south of this field although there is a point where porosity recesses below an oil/water contact.

Q Well, how many wells are currently producing from this

field, four?

A That's right. There are currently four wells: Three of them in the Maljamar North Unit and so far Monsanto's well is the first really effective producer in the northeast Maljamar unit with the exception of the original Ralph Lowe well.

Q Now, you mentioned something about your well was about 80 barrel well with a long pay on it. Is that Monsanto Number 1 there in Section 31?

A Yes, that well was recently completed. It's a pumping well and we're pumping now about 90 barrels of oil per day with no appreciable water that I know of.

MR. NUTTER: Any other questions of Mr. Warfield?

You may be excused.

MR. CHRISTY: I might add, Mr. Examiner, that the next witness will further show why we would be willing -- we think there is oil under this 40 but we would be willing to spend the money to drill on this exact 40. We don't intend to move off the 40.

Will you call Mr. Anderson to the stand?

MR. PORTER: Will he be referring to some of the same exhibits?

MR. CHRISTY: Yes.

P. G. A N D E R S O N, JR., a witness, having been first duly sworn, was examined and testified as follows:



DIRECT EXAMINATION

BY MR. CHRISTY:

Q Would you for the record please state your name, address, occupation and by whom you are employed and in what capacity?

A My name is P. G. Anderson, Jr. You might want to leave one of these exhibits out. Well, only from the standpoint of reference, you may want to refer back to them.

My name is P. G. Anderson, Jr. and I am employed by Monsanto Company as District Petroleum Engineer in Midland, Texas.

Q Mr. Anderson, have you previously testified before this regulatory body as a petroleum engineer and had your qualifications accepted?

A Yes, sir.

Q Are you familiar with what is sought by applicant in Case Number 3335 and the general history of the wells, the economics?

A Yes, sir.

Q All right, Mr. Anderson. Any questions concerning the witness' qualifications?

MR. NUTTER: No, sir.

Q I will refer you to what has been marked as Applicant's Exhibit 7 and please, will you identify the exhibit for us?

A Exhibit Number 7 is a comparison of the microlog pay thickness versus the cumulative oil production in the Kemnitz

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Wolfcamp Pool. This exhibit shows that for the wells that have encountered range of microlog pay thickness between 14 feet and 20 feet that their average cumulative production has been 121,000 barrels per well to 2-1-65. I would like to point out that this exhibit was based upon the information on Exhibit 2 and 3 that Mr. Warfield testified to.

The wells that encountered pay in Kemnitz Pool between 21 and 40 feet, you can see, that their average production has been 284,000 barrels per well and the wells that have encountered greater than the 40 feet of microlog pay have averaged 442,000 barrels per well.

The purpose of this exhibit is to show how critical or how the caliber of the well is with amount of pay there is encountered in the well bore.

Q Now sir, I will refer you to what has been marked as Exhibit 8 which I believe is where we get into the money problem of the case and ask you if you could identify this for us and explain it to us, please, again referring to any prior exhibits.

A Exhibit Number 8 is an estimate of the reserve and economics that could be applied to the Monsanto's proposed Northeast Maljamar Number 2. The first part of this exhibit covers on a per barrel basis that this oil is worth \$2.97 a barrel and that we deduct the 1/8 State royalty, the 3/32 overriding royalty, and approximately 5% severance tax and a



reasonable operating expense that we, Monsanto, would result in obtaining \$1.90 a barrel for the oil that would be developed at this well.

The bottom part of this exhibit reflects -- I've made a comparison here of three different locations with respect to reserves and operating income and any profit to be derived.

The first location is the standard location which is 660 feet from the south line. The second location is the standard location with a maximum tolerance which would be a well located 860 feet from the south line.

Q And the third?

A And the third one is the recommended unorthodox location 1200 feet from the south line. Now, based on Mr. Warfield's exhibit number -- I don't remember which one it is.

Q Five.

A The one that's the cross section.

Q That's 5.

A That's 5, exhibit number 5, the microlog porosity above the 6608 for each of these three different locations is shown here as 10 foot, 22 foot, and 40+ feet, respectively. These reserves for each of these different locations is also shown and the operating income based on this \$1.90 a barrel is shown and then our drilling and completion cost, approximately \$190,000 for a well of this depth. So our operating profit

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before Federal Income Tax for the standard location we'd lose or actually go in the hole \$104,500.

Q That "R" means "red."

A That "R" means a red figure. The standard location with a maximum tolerance at 860 feet, we approximately break even at that location.

And on the third location or the one we are proposing, we stand to gain approximately \$152,000.

Q Now sir, in your opinion would the, based upon the geological testimony here and your exhibits 7 and 8, would the allowing of the well to be drilled at the site that is sought tend to prevent waste and protect correlative rights and result in the optimum recovery of the hydrocarbons placed beneath this 80 acre tract in your opinion?

A Yes, sir, it would.

Q Now, I believe there is one or two typographical errors on exhibit 8. It is the west half of the west and not the west half of the south and west half and the microlog porosity above the 6608 feet and the 85,000 should not have the third zero on it?

A That is correct.

Q Now, exhibit 7 and 8 were prepared by you or under your direct supervision?

A Yes, sir.

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Q Now, have I missed anything that the Examiner should be aware of in connection with this case and his consideration of it?

A No, sir, only that I would like to reiterate how critical we believe the present location of this will be resulting in a well that would have optimum drainage of the 80 acres in question.

MR. CHRISTY: That's all.

MR. NUTTER: Are there any questions of Mr. Anderson?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Anderson, referring to Mr. Warfield's exhibit number 2 it would appear that he's got a 20 feet of porosity going right through the standard location which you exhibit 8 shows 10 feet of porosity?

A That is correct, sir, but if you will also look at Exhibit Number 5 you will see I have my microlog porosity is above minus 6608. His porosity as shown on Exhibit Number 2, his gross microlog porosity that would be -- he would anticipate to be encountered by this well, some of it below minus 6608. This minus 6608 can be better shown if you will look at Exhibit Number 5.

Q Well, from the line that he has drawn at the standard location, very, very little of it is shown below the red line,



however.

A I beg your pardon. Maybe we're not together.

Q It appears from that the bulk of porosity would be above this 6608.

A The standard location if you will see the red line intersects or essentially cuts it, the porosity that he has shown there.

Q The blue is the porosity?

A No, sir, the white.

Q Oh, the white. I beg your pardon. Well, that would be approximately half of it then?

A That was the reason for that. That is the difference and he has contoured the maximum, in other words, all of the white shown on this exhibit number 5 and I have in my reserve evaluation used only the portion above the red line.

Q The white area between the two wavy lines is the porosity?

A Yes, sir.

Q I see.

A I might point out in reference to this red line in Exhibit Number 5 that it's my understanding that this represents the highest point in the West Kemnitz Pay in which water has been found. And as Mr. Warfield testified, it doesn't necessarily indicate oil/water contact. It could be a start of transition

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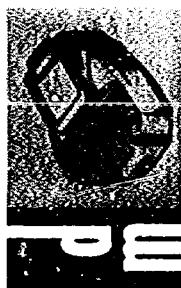


zone due to porosity or permeability encountered by the wells.
 So for that reason I've tried to just use the reserves that we could show above the known highest point in this field where any water was encountered.

Q Now, would you go into some of that production history on that Ralph Lowe well?

A Yes, sir. For the record, I would like to clear up one thing: This Ralph Lowe well it was drilled originally by Ralph Lowe. It is now operated by Aztec Oil and Gas Company and is now currently carried as an Aztec-operated well. This well is down to a total depth of 12256 feet. It was plugged back to 11,000. Original perforations in the West Kemnitz Pay was 10,858. Age 66 at 10,000. Age 84 at 10,898. It was originally treated with 1,000 gallons of acid and completed February the 4th, 1961. Initial potential that we have in our records indicate that it flowed 210 barrels of oil per day plus 3 barrels of water per day on a 24/64's choke with a flow-in tube and a pressure of 200 pounds. Accumulative production is approximately 1,400 barrels. It produced for two months, or at least two months the well was completed and the time the operator recompleted in the Upper Wolfcamp. An operator informed me the other day that just prior to recompleting this well the lines had declined to 7 barrels of oil a day with 50% water prior to this recompletion.

Q Was it on a pump?



A Here again I'm going to report what the operator told me. He said when they recompleted in the Upper Wolfcamp the well came in flowing and they set a packer and plug between the two zones and that he continued to produce the well from the upper zone until it ceased to flow at which time he then went back and when he installed the artificial lift equipment, he comingled in both the two zones and they were comingling until recently, until about two weeks ago when he stimulated the upper zone. In the last report I had he was flowing the upper zone or was producing the upper zone by itself again.

Q In other words, he had that packer in there with a plug in it and then when he put the artificial lift equipment in he pulled the plug?

A Yes, sir. Not trying to talk out of school but he told me he had received Commission approval for doing this.

Q But the plug's back in there now?

A Yes, sir. As he reported to me last week, that he had acidized the upper zone again that he's now producing a well solely from the Upper Wolfcamp.

I would like to point out now this well, this Aztec Maljamar Number 1 has produced over a 100,000 barrels of oil. How much of that came from the Kemnitz Pay in the Upper Wolfcamp we have no way of knowing.

Q Well, it was originally completed in '61?



A Yes, sir.

Q So, for most of its life, it has had the upper part open, the upper perforations?

A Yes, sir, they have been opened. They were opened up approximately after the well was originally completed.

MR. NUTTER: Any other questions of Mr. Anderson? You may be excused.

MR. CHRISTY: We would like to offer Applicant's Exhibits 1 through 8.

MR. NUTTER: They will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 8 were offered and admitted into evidence.)

MR. CHRISTY: That's all for the Applicant.

MR. ANDERSON: I have a closing statement. R. M. Anderson, Sinclair Oil and Gas Company.

We would like to support Monsanto in this application. We do this in view of our historic position before the Commission where we feel that flexibility in 80-acre spacing is necessary in the economic completion of oil reserve. We feel an operator should have the election to drill on either end of his 40 -- of his 80. We would have no objection had this application been to drill further north on the other 40-acre tract.

MR. NUTTER: Thank you. Anything else?

MR. DURRETT: If the Examiner please, I would like to state for the record that the Commission has receive a letter

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from Aztec Oil and Gas Company stating that they have no objection to Monsanto's application. We have received a telegram from Ralph Lowe stating that they support Monsanto's application. We have also received two telegrams opposing this application which I would like to read in full as Mr. Christy may have some comments on them. First one reads: "Delaware Apache Corporation as operator of the northeast Maljamar unit herein opposes the application of Monsanto Chemical Company request for an approval of unorthodox well location 1200 feet from the south line and 660 feet from the west line of Section 32, Township 16 south, Range 32 east in Lea County, New Mexico. The operator believes this location would essentially be on a 40-acre pattern rather than the field rules by the Commission designated 80-acre location of the reservior. Studies presented to the Commission have indicated one well will drain each 80-acre tract. John H. Black, Apache Corporation."

We have also received a telegram from Standard Oil Corporation stating: "Standard Oil Corporation joins unit operator, Apache Corporation, in objecting to the unorthodox oil well location as proposed by the Monsanto Company in Case 3335, Examiner Hearing, November 23, 1965. Standard Oil Corporation, C. W. Matthews, Division Manager."

MR. CHRISTY: I would only like to advise the Commission that the testimony in this record from which you must

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your decision shows that one well will drain 80 acres and that there is 80 acres of oil under this particular tract involved. The testimony and the sole testimony that it would be uneconomic to drill at a standard location or at the allowable 200-foot location. We stand upon the record as it is here today.

MR. NUTTER: Thank you. Is there anything further?

MR. WHITE: I have a statement. Robert W. White, Mobil Oil Company.

Socony-Mobil as a part interest owner in the offset Apache North Maljamar State Unit concurs with the operator of the Apache in opposing the hearing of the unorthodox location.

MR. NUTTER: Thank you. Anything further?

We will take the case under advisement.

(Whereupon, Case Number 3335 was concluded.)

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E X H I B I T S

<u>EXHIBIT</u>	<u>MARKED FOR IDENTIFICATION</u>	<u>OFFERED</u>	<u>ADMITTED</u>
App's. 1	2	25	25
App's. 2	2	25	25
App's. 3	2	25	25
App's. 4	2	25	25
App's. 5	2	25	25
App's. 6	2	25	25
App's. 7	2	25	25
App's. 8	2	25	25

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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, DEAN A. ROBINSON, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 2nd day of December,
1965.

Dean A. Roberts
NOTARY PUBLIC

My Commission Expires:

October 16, 1969.

I do hereby certify that the foregoing is
a complete record of the proceedings of
the Board of Directors of the
held by me on 11/23, 1965.

[Signature]
New Mexico Oil Conservation Commission

KEMNITZ WOLFCAMP POOL
LEA COUNTY, NEW MEXICO

Microlog Pay Thickness
versus
Cumulative Oil Production

Range of Microlog Pay Thickness	14'-20'	21'-40'	> 41'
Number of Wells	8	7	14
Average Cumulative Oil Prod. to 2-1-65 per well	121,000 Bbls.	284,000	442,000

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Spplie EXHIBIT NO. 7
CASE NO. 3335

WEST KEMNITZ WOLFCAVE POOL
LEA COUNTY, NEW MEXICO

Reserve and Economic Data
For Monsanto Company N.E. Maljamar No. 2
W/2, SW/4, Sec. 32, T-16S, R-33E

Gross Value of Barrel of Oil	\$2.97
Less 1/8 State Royalty	- .37
Less 3/32 Overriding Royalty	- .28
Less 5% Severance Taxes	- .12
Less Operating Expenses	- .30
Net Operating Income Before Income Taxes per Barrel	\$1.90

	Standard Location 660' FSL	Standard Location w/Max. Tolerance 860' FSL	Recommended Unorthodox Location 1200' FSL
Microlog Porosity Above-6608'	10'	22'	40'
Gross Well Reserves, Bbls.	45,000	100,000	180,000
Operating Income	\$85,500	\$190,000	\$342,000
Drilling & Completion Cost	\$190,000	\$190,000	\$190,000
Operating Profit Before F.I.T.	\$104,500 R	-0-	\$152,000

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 8
CASE NO. 3335