

Case Number.

4208

Application

Transcripts.

Small Exhibits

ETC.



dearnley-meier

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

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 28, 1969

EXAMINER HEARING

IN THE MATTER OF:)
)
)

Application of John A. Yates)
of Artesia for several waterflood)
projects, Eddy County, New Mexico.)

Case No.
4208

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 4208.

MR. HATCH: Case 4208. Application of John A. Yates of Artesia for several waterflood projects, Eddy County, New Mexico.

MR. LOSEE: Mr. Examiner, A. J. Losee of Artesia, appearing on behalf of the Applicant. We have one witness, Mr. Eddie Mahfood.

(Witness sworn.)

MR. HATCH: Let me interrupt just a moment. Mr. Losee, I have this as the application of John A. Yates of Artesia. Is that, of Artesia, part of this -- the name that he wants this under or is it just John A. Yates?

MR. LOSEE: No, sir. It's just John A. Yates.

MR. HATCH: Just John A. Yates?

MR. LOSEE: Yes, sir.

MR. UTZ: Any other appearances? You may proceed.

EDDIE MAHFOOD

the witness, called by Mr. Losee, having first been duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. LOSEE:

Q. You are Eddie Mahfood of Artesia, New Mexico?

A. Correct.

Q. What is your occupation?

A. Consulting petroleum engineer.

Q. You have not previously testified before the Commission?

A. No, sir.

Q. Where did you obtain your higher education?

A. I graduated from the University of Texas with a Science degree in Petroleum Engineering in 1958.

Q. Are you a registered petroleum engineer in any states?

A. Yes, sir. I am a registered petroleum engineer in New Mexico and in Texas.

Q. Since your graduation from College, have you attended any seminars?

A. Yes, sir. I attended a five-day seminar with Sinclair Oil, in Tulsa, in 1962. And a three-day seminar at Texas Tech in 1967.

Q. What has been your experience since your graduation since school?

A. Six years petroleum engineering with Sinclair Oil and Gas in south Texas; a year and a half staff engineering with Citronelle Unit, a waterflood organization, in Mobile, Alabama -- near Mobile. And two years district

engineer with Numont Oil in Artesia.

For the past year and a half, I have been a consulting engineer.

Q. Mr. Mahfood, please refer to what has been marked as Exhibit One and explain what is shown on this exhibit?

A. Exhibit One is a lease map of the proposed waterflood area. The red outline is the approximate productive area of the Seven Rivers formation.

Q. Does it show the offsetting leases and wells?

A. Yes, sir. All offsetting leases is shown of this waterflood area, of this proposed waterflood area, with the formations that have been produced also indicated.

Q. Now, your diamond-shaped wells, are those your injection wells?

A. Yes, sir. The triangles are the proposed injection wells.

Q. How many leases are involved in this proposed project?

A. Three lease are being operated by John Yates and are imposed in this -- and will respond to this waterflood.

Q. All right. One of the leases, the Carolina, is

in the northwest quarter of Section 28?

A. That is correct.

Q. The Mary Lou is in the south half, northeast quarter of Section 29?

A. That is correct.

Q. And the Helen is in the northeast quarter northeast quarter of Section 29?

A. That is correct.

Q. Would you give a brief statement of the history of this Seven Rivers east mountain pool?

A. The pool was discovered by the S. P. Yates States J Number One, in 1954. In 1961, I believe, John Yates took over this property and renamed that well Caroline Number Two. At that time he developed additional -- he drilled additional wells.

The area was developed after '61.

Q. Do you know approximately when the last development occurred?

A. In this area here, the Caroline Number Seven was drilled in May of '62 and it was a dry hole -- no, the Betty Ann Number One was more recent; it was drilled in June of '63 -- the Betty Ann is now a plug well.

Q. Please refer to what has been marked as Exhibit

Two, entitled Well Completion Data, and explain what is shown on this exhibit, without elaborating on the details?

A. This exhibit shows well completions effecting the John Yates properties. It shows the date of the completion, the location of the wells, the date of the completion, the total depth, the open hole completions or perforations, the elevation of the well, the oil string -- there is one omission here, the surface casing; I did not recall the surface casing in these wells. But except for the State J Number One, there is two strings of casing in all these wells.

Q. Please refer to what has been marked Exhibit Three-A, being your production decline curve on the Helen lease, and explain what is portrayed by this exhibit?

A. Exhibit Three-A is the production decline curve -- and it shows that this a gas depletion type reservoir. The sharp initial decline, initial decline indicates a high permeable formation. The high permeable strata is quickly depreciated -- the sharp decline indicates that the high permeability strata is quickly depleted and that the less permeable strata will flatten out in the decline.

Q. Mr. Mahfood, what is the accumulative production; you don't have the accumulative on the Helen --

A. Yes, sir. I do. It's ten thousand twenty-four barrels through May of '69.

Q. What is the average production per well on this lease? There is only one well --

A. There is just one well there, and that's ten thousand barrels.

Q. Do you know what it's making at this time?

A. Approximately one barrel per day.

Q. All right. Please refer to Exhibit Three-B and explain this production curve?

A. Three-B is the decline curve for the Mary Lou lease. It contains four producing wells -- the fifth one is a dry hole.

Q. What is the accumulative production on this Mary Lou lease?

A. The accumulative production of the Mary Lou lease through May of '69 is twenty-five thousand four hundred and eighty-five, and its current production is approximately thirty-six barrels per month for the four wells.

Q. And what is the average production?

A. This would give us an average production of approximately one point three barrels a day.

Q. Are there any wells on that lease making over two barrels a day?

A. No, sir.

Q. Please refer to your Exhibit Three-C and explain that exhibit?

A. Exhibit Three-C is the production decline curve of the Caroline lease. You will notice the first six years is pretty flat and it's very low in productivity -- that is the Caroline Number Two production, formerly known as the State J Number One.

It was almost outside of this pool. They almost missed the production -- the pay end as well, and it just -- it just eked out a little bit of oil, continuously.

Q. Then, in '61, the additional three wells were drilled?

A. That's right. In '61, the additional wells were drilled.

Q. What is the accumulative production from this Caroline lease?

A. The accumulative production from the Caroline lease is fifty-seven thousand and eighteen barrels through May of '69. The current production is approximately one hundred thirty-six barrels per month, for five wells, which

is less than two barrels a day per well.

Q. Is there any well on that lease making in excess of two barrels?

A. The pumper tells me that none is making more than two barrels a day.

Q. Mr. Mahfood, in your opinion, are these wells on these three leases stripper wells?

A. Yes, sir. I do believe that all these wells are stripper wells.

Q. Do you have an opinion as to the ratio of secondary oil that will be recovered to primary oil?

A. I have made a study of these pools for Mr. Yates, and I find that several of these wells do not completely penetrate the total pay of the Seven Rivers.

Therefore, a fair amount of primary reserves has not been uncovered. Therefore, by instituting a waterflood, we will not only recover the secondary oil in the total depleted areas, but also some of this primary oil in the undepleted areas.

So, I say it will be some figure greater than the primary figure.

Q. Please refer to your Exhibit Four --

A. Exhibit Four are two well logs, one of each

injection well.

Q. Have you marked the pay sections of the Seven Rivers on each of these wells in red?

A. Yes, sir. The red indicates the pay section and I've also noted the perforations, the proposed perforations.

Q. Please refer to your Exhibit Five-A, being the diagramatic sketch of the Mary Lou Number One, converted to injection, and explain what is shown briefly by this?

A. Five-A is the diagramatic sketch of the injection well of the Mary Lou Number One. We note two strings of casing, with the surface casing cemented to the surface -- the oil string is cemented to the -- approximately sixty-three feet from the surface.

Q. Is that calculated top --

A. Yes, sir. That is calculated top of the cement. And there is two layers of cement behind the surface area -- which would protect any fresh water in the area.

Q. You would propose to inject down the tubing and with the tension packer?

A. Yes, sir, that is correct.

Q. Please refer to Five-B and explain what this

portrays?

A. Five-B is a diagramatic sketch of the injection of Caroline Number Four. There we have two strings of casing, surface casing cemented to the surface -- the oil string cemented to an estimated top of four hundred twenty-eight feet from the surface. We propose to set the packer at about ten fifty feet, which would be above six hundred feet below the top of the cement and inject through the tubing.

Q. There was negligible water encountered in the drilling of these wells; is that correct?

A. That's correct, sir.

Q. What is the source of water for this injection?

A. The source of water is the Ogallala water from the Double Eagle Corporation, and line is being laid to their eight-inch line, which is located approximately eleven thousand feet away from the project area.

Q. What do you estimate the volume in pressure of water injection into these two wells?

A. The wells should take an estimated five hundred fifty barrels of water per day, with five hundred pounds of well head pressure.

Q. In your opinion, will these proposed injection

well completions protect any fresh water in the area?

A. Yes, sir. Yes, there is adequate cement -- they have the pipe to protect.

Q. Were Exhibits One through Six prepared by you?

A. That is correct.

MR. LOSEE: We move the introduction of Exhibits One through Six.

MR. UTZ: Without objection, Exhibits One through Six will be entered into the record of this case.

(WHEREUPON, Applicant's Exhibits One through Six, inclusive, were admitted into evidence.)

MR. LOSEE: We have no further testimony at this time.

CROSS EXAMINATION

BY MR. UTZ:

Q. How do you spell your name?

A. Mahfood -- M-a-h-f-o-o-d.

Q. Mr. Mahfood, what do you intend to do about the annulus in these two injection wells?

A. Sir, we propose to put fresh water in -- inhibited fresh water in the casing annulus.

Q. And the surface at the annulus, you are going

to leave it open, put a gauge on it or what?

A. Yes, sir. I don't see any need for any additional protection.

Q. Well, which are you going to do?

A. Oh, we'll put the gauge on it -- yes, sir.

Q. All right.

MR. UTZ: Any other questions?

MR. HATCH: Was that five hundred barrels of water per day?

THE WITNESS: Five hundred and fifty barrels of water per day for both wells.

MR. HATCH: For both wells?

THE WITNESS: Yes, sir.

MR. UTZ: The witness may be excused.

Statements?

The case will be taken under advisement.

I N D E XPage

The Witness - EDDIE MAHFOOD

Direct Examination by Mr. Losee

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Cross Examination by Mr. Utz

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E X H I B I T SAdmitted

Applicant's Exhibits One through Six

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

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1400 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO 87108

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, CA FENLEY, Court Reporter 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 14th day of November, 1969.

CA Fenley

COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4208 heard by me on Aug 28 1969
[Signature] Examiner
New Mexico Oil Conservation Commission

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

October 29, 1969

Mr. A. J. Losee
Attorney at Law
Post Office Box 239
Artesia, New Mexico 88210

C Dear Sir:

Reference is made to Commission Order No. R-3841, recently entered in Case No. 4208, approving the John Yates Caroline Millman Waterflood Project and the John Yates Mary Lou Millman Waterflood Project.

O Injection into each projection shall be through the one authorized water injection well for that project. In both projects injection shall be through 2-inch tubing set in a packer at about 1050 feet. The casing-tubing annulus in each well shall be loaded with an inert fluid and equipped with a pressure gauge at the surface.

P As to allowable, our calculations indicate that when both of the authorized injection wells have been placed on active injection, the maximum allowable which the Caroline will be eligible to receive under the provisions of Rule 701-E-3 is 168 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less and the maximum for the Mary Lou project is 112 barrels per day.

Y Please report any error in these calculated maximum allowables immediately, both to the Santa Fe office of the Commission and the appropriate district proration offices.

In order that the allowable assigned to the projects may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project areas, i.e., when

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

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Mr. A. J. Losee
Attorney at Law
Post Office Box 239
Artesia, New Mexico

October 29, 1969

C active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the projects and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

P ALP/DSN/ir

cc: Oil Conservation Commission
Hobbs and Artesia

Y Mr. D. E. Gray, State Engineer Office
Santa Fe, New Mexico



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 - SANTA FE

87501

GOVERNOR
DAVID F. CARGO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMijo
MEMBER

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

September 17, 1969

Mr. A. J. Losee
Attorney at Law
Post Office Box 239
Artesia, New Mexico 88210

Re: Case No. 4208
Order No. R-3841

Applicant:

John A. Yates

Dear Sir:

Enclosed herewith is a copy of the above-referenced Commission order recently entered in the subject case. Letter pertaining to conditions of approval and maximum allowable to follow.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC X
Artesia OCC X
Aztec OCC _____
State Engineer X

Other _____

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. 4208
Order No. R-3841

APPLICATION OF JOHN A. YATES OF ARTESIA
FOR SEVERAL WATERFLOOD PROJECTS, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 27, 1969,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 17th day of September, 1969, 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, John A. Yates, seeks permission to
institute two waterflood projects in the East Millman-Seven Rivers
Pool by the injection of water into the Seven Rivers formation
through his Caroline Well No. 4, located in Unit E of Section 28,
and his Mary Lou Well No. 1, located in Unit H of Section 29, both
in Township 19 South, Range 28 East, NMPM, Eddy County, New Mexico.
- (3) That the wells in the project areas are in an advanced
state of depletion and should properly be classified as "stripper"
wells.
- (4) That the proposed waterflood projects should result in
the recovery of otherwise unrecoverable oil, thereby preventing
waste.

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CASE No. 4208
Order No. R-3841

(5) That the subject application should be approved and the projects should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, John A. Yates, is hereby authorized to institute two waterflood projects in the East Millman-Seven Rivers Pool by the injection of water into the Seven Rivers formation through the following-described two wells in Township 19 South, Range 28 East, NMPM, Eddy County, New Mexico:

John Yates Caroline Millman Waterflood Project

Injection Well:

Caroline Well No. 4, located in Unit E of
Section 28

John Yates Mary Lou Millman Waterflood Project

Injection Well:

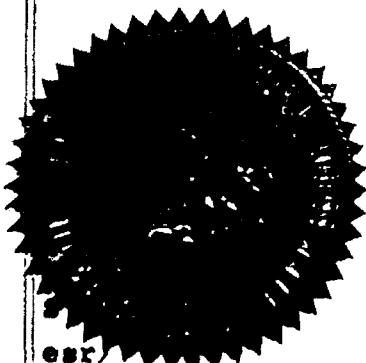
Mary Lou Well No. 1, located in Unit H of
Section 29

(2) That the subject waterflood projects shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(3) That monthly progress reports of the waterflood projects herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(4) 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

DAVID F. CARGO, Chairman

ALEX J. ARMEJO, Member

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

Case 4208
Rec'd 8-27-67
Rec. 9-10-69

Grant John A. Yates 2 water
floods for the following
leases.

1. John Yates - Caroline flood
w/ injection well to be located
1650/W, 330/W (unit E) 28-195-28E.
E. Millman - S.R. pool. Packer set
at approx 1050'
2. John Yates - Mary Lou flood
w/ injection well to be located.
1650/W, 330/E (unit H) 29-195-28E.
E. Millman - S.R. Pool. Packer
to be set at approx 1050'.
Injection in both wells to be
 thru 2" tubing & under of
Packer.

Thos. H. [Signature]

DOCKET No. 24-69

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 27, 1969

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

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

CASE 4191: Application of Gulf Oil Corporation for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 4408 feet to 4415 feet in its Roosevelt "AN" State Well No. 3 located in the NW/4 SE/4 of Section 32, Township 7 South, Range 36 East, adjacent to the Todd-Lower San Andres Pool, Roosevelt County, New Mexico.

CASE 4192: Application of Southwest Production Corporation for an unorthodox gas well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its Buffalo Valley "Com" Well No. 2 at an unorthodox location 1650 feet from the North line and 990 feet from the East line of Section 35, Township 14 South, Range 27 East, Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico, in exception to the provisions of Rule 2 of the special rules for said pool.

CASE 4193: Application of Humble Oil & Refining Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Bowers "A" Federal Com 33 Well No. 33 located in Unit D of Section 29, Township 18 South, Range 36 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Hobbs (Grayburg-San Andres) Pool and the Hobbs-Blinbry Pool through parallel strings of tubing.

CASE 4194: Application of Phillips Petroleum Company for an amendment of Order No. R-3181 and dual completions, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3181, which order established special rules regulating the operation of the Phillips Petroleum Company Vacuum Abo Pressure Maintenance Project, Vacuum-Abo Reef Pool, Lea County, New Mexico. Applicant

CASE 4194 - Continued from Page 1 -

seeks authority to inject gas through two additional wells located in Unit L of Section 34, Township 17 South, Range 35 East and Unit B of Section 4, Township 18 South, Range 35 East and to expand said project area to include the SE/4 NE/4 of Section 33 and the NW/4, N/2 SE/4, and SW/4 SE/4 of Section 34 Township 17 South, Range 35 East. Applicant further seeks authority to dually complete all gas injection wells in the project in such a manner as to permit the production of oil from the lower section of the Abo Reef through tubing and the injection of gas into the upper section of the Abo Reef through the casing-tubing annulus.

CASE 4195: Application of Continental Oil Company for eight non-standard gas proration units and a non-standard gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the rededication of acreage to establish the eight following non-standard gas proration units in Township 20 South, Range 37 East, Eumont Gas Pool, Lea County, New Mexico:

A 120-acre non-standard unit comprising the SE/4 NE/4 and E/2 SE/4 of Section 14, to be dedicated to the "SEMU" Well No. 46, located in Unit D of said Section 14;

A 240-acre non-standard unit comprising the NE/4 and E/2 SE/4 of Section 26, to be dedicated to the "SEMU" Well No. 64, located in Unit G of said Section 26;

A 560-acre non-standard unit comprising the W/2 and W/2 SE/4 of Section 26 and the E/2 E/2 of Section 27, to be dedicated to the "SEMU" Well No. 65, located in Unit L of said Section 26;

A 640-acre non-standard unit comprising the W/2 and the W/2 E/2 of Section 14 and E/2 E/2 of Section 15, to be dedicated to the "SEMU" Well No. 66, located in Unit L of said Section 14;

CASE 4195 - Continued from Page 2 -

A 320-acre non-standard unit comprising the SE/4, S/2 NE/4, and E/2 SW/4 of Section 24, to be dedicated to the "SEMU" Well No. 67, located in Unit K of said Section 24;

A 640-acre non-standard unit comprising the E/2 and E/2 W/2 of Section 23 and W/2 W/2 of Section 24, to be dedicated to the "SEMU" Well No. 58, located in Unit J of said Section 23;

An 30-acre non-standard unit comprising the E/2 NW/4 of Section 24, to be dedicated to the "SEMU" Well No. 69, located in Unit F of said Section 24;

A 320-acre non-standard unit comprising the E/2 E/2 of Section 22 and the W/2 W/2 of Section 23, to be dedicated to the "SEMU" Well No. 90, to be completed at a non-standard location 550 feet from the South and East lines of said Section 22.

CASE 4196: Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the consolidation of three existing non-standard gas proration units into one 360-acre non-standard unit comprising the W/2 and the NW/4 NE/4 of Section 18, Township 23 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to be dedicated to its Stevens "B" Wells Nos. 15 and 16, located in Units F and K, respectively, of said Section 18. Applicant further seeks authority to produce the allowable assigned to said unit from either of the aforesaid wells in any proportion.

CASE 4197: Application of Continental Oil Company for an amendment to Order No. R-37, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3755 which authorized, among other things, the drilling of a water injection well in the Forest Donahue Waterflood Project area at a location 1980 feet from the North line and 1550 feet from the West line of Section 35, Township 16 South, Range 29 East, Eddy County, New Mexico.

CASE 4197 - Continued from Page 3 -

Applicant now seeks authority to locate said well at an unorthodox location 1980 feet from the North line and 1450 feet from the West line of said Section 35 in the Forest (San Andres) Pool.

CASE 4198: Application of Continental Oil Company for amendment of Order No. R-3487, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3487 which authorized the applicant to utilize its Eaves "A" Well No. 10, located in Unit P of Section 19, Township 26 South, Range 37 East, Scarborough Yates-Seven Rivers Pool, to dispose of salt water into the Seven Rivers formation in the interval from 3208 feet to 3255 feet. Applicant now seeks authority to inject produced salt water into the Yates and Seven Rivers formations in the perforated and open-hole interval from approximately 3107 feet to 3410 feet in said well and the reclassification of said salt water disposal well to a pressure maintenance injection well.

CASE 4199: Application of Burleson & Huff for compulsory pooling and a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Jalmat Gas Pool underlying the SE/4 of Section 28, Township 25 South, Range 37 East, Lea County, New Mexico. Said 160-acre non-standard gas proration unit to be dedicated to the Burleson & Huff "Cook" Well No. 2, a recompleted well, located 660 feet from the South and East lines of said Section 28. Also to be considered will be the costs of drilling and/or recompleting said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4200: Application of Burleson & Huff for compulsory pooling and a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Jalmat Gas Pool underlying the NE/4 of Section 29, Township 25 South, Range 37 East, Lea County, New Mexico. Said 160-acre non-standard gas proration unit to be dedicated to a well,

CASE 4200 - Continued from Page 4 -

to be recompleted, located 660 feet from the East line and 1980 feet from the North line of said Section 29. Also to be considered will be the costs of drilling and/or recompleting said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4201: Application of Mobil Oil Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Langlie-Mattix Queen Unit Area comprising 1120 acres, more or less, of federal and fee lands in Sections 10, 11, 14, 15, 22, and 23, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 4202: Application of Mobil Oil Corporation for a waterflood project and unorthodox injection well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Langlie-Mattix Queen Unit Area by the injection of water into the Queen sand through 17 wells at orthodox and unorthodox locations in Sections 10, 11, 14, 15, 22, and 23, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby additional injection wells at orthodox and unorthodox locations may be approved for said project administratively.

CASE 4203: Application of Mobil Oil Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Humphrey Queen Unit Area comprising 761 acres, more or less, of federal and fee lands in Sections 3 and 4, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 4204: Application of Mobil Oil Corporation for a waterflood project and unorthodox injection well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Humphrey Queen Unit Area by the injection of water into the Queen sand through 11 wells at orthodox

CASE 4204 - Continued from Page 5 -

and unorthodox locations in Sections 3 and 4, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby additional injection wells at orthodox and unorthodox locations may be approved for said project administratively.

CASE 4205: Application of Tesoro Petroleum Corporation for four unorthodox injection well locations and amendment of Order No. R-2807, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks authority to inject water into the Hospah Upper Sand Oil Pool in its Hospah Unit Waterflood Project Area through four additional injection wells at unorthodox locations in Section 36, Township 18 North, Range 9 West, McKinley County, New Mexico, said wells to be located as follows:

Well No. 62 located 1900 feet from the South line and 1140 feet from the West line;

Well No. 63 located 1980 feet from the North line and 2310 feet from the West line;

A well to be drilled 1430 feet from the South line and 2625 feet from the East line;

A well to be drilled 30 feet from the South line and 2350 feet from the East line.

Applicant further seeks the amendment of Order No. R-2807, which order authorized the aforesaid waterflood project, to establish a procedure whereby additional injection wells at unorthodox locations, as may be necessary to complete an efficient injection pattern, may be approved administratively.

CASE 4206: Application of Shell Oil Company for an unorthodox oil well location and amendment to Order No. R-2538, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a producing oil well at an unorthodox location 1315 feet from the North line and 2625 feet from the West line of Section 34, Township 19

CASE 4206 - Continued from Page 6 -

South, Range 35 East, as an infill well in its East Pearl-Queen Unit Waterflood Project area, East Pearl-Queen Pool, Lea County, New Mexico. Applicant further seeks the amendment of Order No. R-2538, which order authorized the aforesaid waterflood project, to establish a procedure whereby additional producing wells at unorthodox infill locations in the aforesaid project area, as may be necessary to complete an efficient producing pattern, may be approved administratively.

CASE 4207: Application of C. W. Trainer and DEL-LEA, Inc., for an unorthodox gas well location, Lea County, New Mexico. Applicants, in the above-styled cause, seek an exception to Rule 104 C II to permit the drilling of a well at an unorthodox gas well location 330 feet from the North line and 660 feet from the West line of Section 35, Township 12 South, Range 34 East, West Ranger Lake-Devonian Gas Pool, Lea County, New Mexico. The N/2 of said Section 35 to be dedicated to the well.

CASE 4186: (Readvertised)

Application of Tenneco Oil Company for compulsory pooling and an unorthodox gas well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Basin-Dakota Gas Pool underlying the North half of Section 11, Township 29 North, Range 13 West, San Juan County, New Mexico. Said acreage to be dedicated to a well to be drilled at an unorthodox gas well location 2250 feet from the North line and 600 feet from the East line of said Section 11. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well. In the absence of a valid objection an order will be issued upon the record entered in the subject case August 6, 1969.

CASE 4208: Application of John A. Yates of Artesia for several waterflood projects, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute

CASE 4208 - Continued from Page 7 -

several waterflood projects by the injection of water into the Seven Rivers formation through his Mary Lou Well No. 1 located in Unit H of Section 29 and his Caroline Well No. 4 located in Unit E of Section 28, both in Township 19 South, Range 28 East, East Millman-Seven Rivers Pool, Eddy County, New Mexico.

CASE 4209: Application of Harvey E. Yates Company of Artesia for several pressure maintenance projects, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute several pressure maintenance projects by the injection of water into the Seven Rivers and Queen formations, McMillan (Seven Rivers-Queen) Pool, Eddy County, New Mexico, through the following-described wells in Township 20 South, Range 27 East:

Page & Yates Well No. 8 - Unit M - Section 5
Page & Yates Well No. 6 - Unit I - Section 6
Page & Yates Well No. 7 - Unit J - Section 6
Lillie Yates Well No. 2 - Unit B - Section 7

JOHN A. YATES

Oil Producer

ARTESIA, NEW MEXICO 88210

YATES BLDG. - 207 SOUTH 4TH
PHONE: (505) 746-3558

December 2, 1974

Case 4208
Order R-3841
RECEIVED

DEC 3 1974

O. C. C.
ARTESIA, OFFICE

Oil Conservation Commission
Drawer DD
Artesia, N M 88210

Re: Water injection report
John A. Yates, Opr.
Mary Lou 1
E-7644
E. Millman, Seven Rvrs
Sec 29, T 19 S., R. 28 E.

Cumulative water injection 83455. No water injection for several months. Tentative plans were to plug and abandon well. However, due to having recently drilled new well in vicinity, operator of Mary Lou 1 is waiting to evaluate results and decide whether or not to plug and abandon same.

Hence, operator is discontinuing monthly water injection reports.

A. Perkins
Production Clk.

Submitted in triplicate

Project abandoned

Exhibit 2

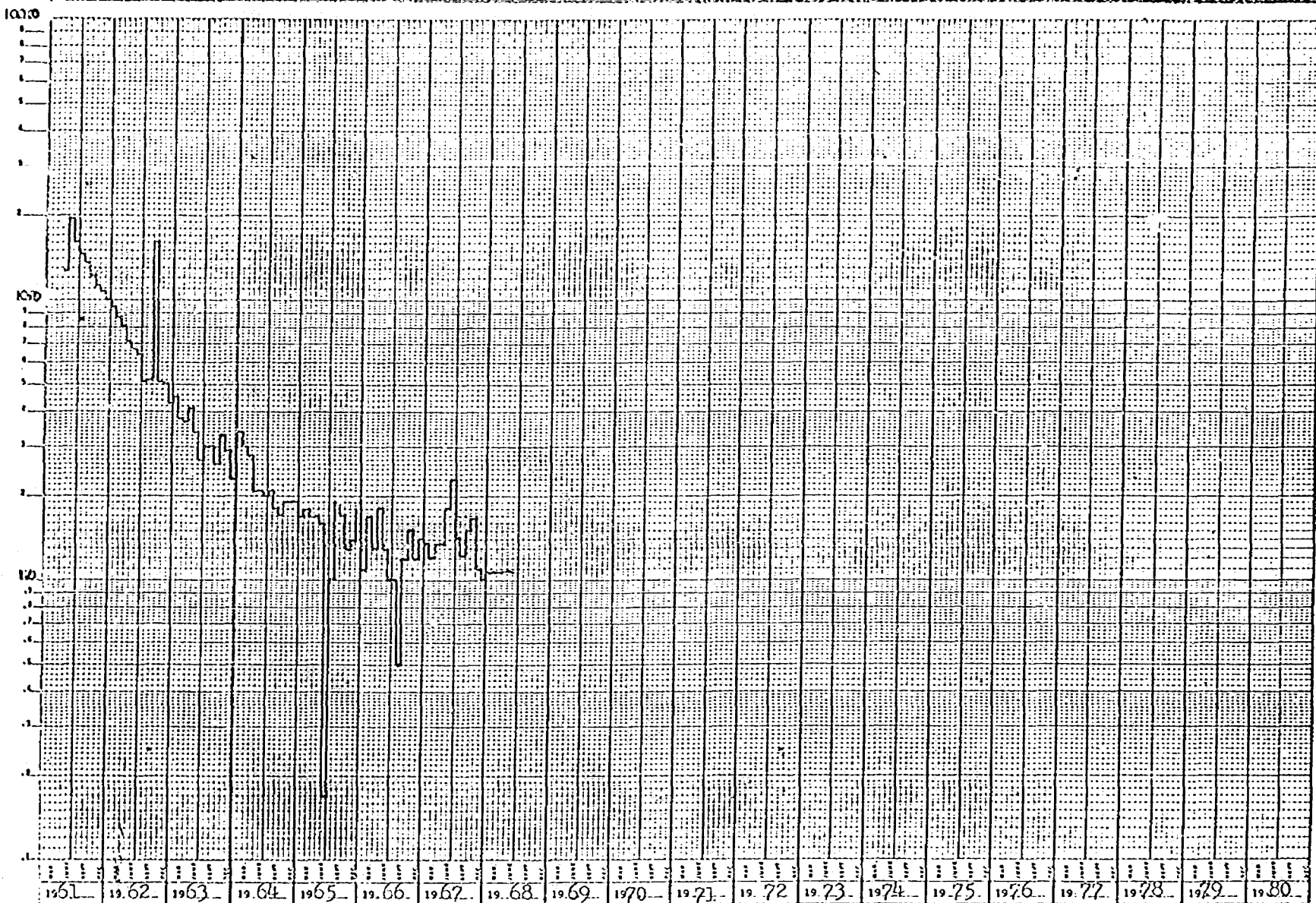
WELL COMPLETION DATA - EAST MILIMAN SEVEN RIVERS

John A. Yates - Operator

Caroline #2 (prev. State J #1) 1980/N 660/W Sec 28-19-28	c. Feb 54 TD-4081 PB-1140; Open Hole, SOF 1114-25 w/3000g. El. 3378 8 5/8" 24# @ 568' IP- 5 BOPD 30°API 10/58: Deepened to 1154' SR-1085'
Caroline #1 1650/W 330/N C-28-19-28	c. 7-10-61 TD-1226, PB-1220; Pf 1076-80, 1101-04, 1110-14, El. 3401 4 1/2" 9.5# 1220' Pf 1142-46, 1174-78; 5000g. 15% 12/66: SWF 80000#/1922b. Incr fr 2 BO to 40 BOPD; IP-56f
Caroline #3 330/N 990/W D-28-19-28	c. 9-15-61 TD-1250, PB-1240; Pf 1142-44, 49-52, 57-60, 75-77, El. 3406 4 1/2" 1250' 75sx Pf 1199-1205; 13000g. 15%; SR-1090 IP- 35 BO 20 BOPD swb
Caroline #4 1650/N 330/W E-28-19-28	c. 10-6-61 TD-1190, PB-1180; Pf 1100-04, 28-33, 39-44, 59-63, El. 4 1/2" 1190' 75sx Pf 1168-72; 8000g. 15%; SR-1054 IP- 38 BOPD 16/64 ck, 38°API
Caroline #5 990/N 990/W D-28-19-28	c. 3-6-62 TD-1156, PB-1150; Pf 1126-30, 1046-70; 22500g. 15% El. 3392 4 1/2" 1156' 100sx SOF-50000#/500 BO; IP- 10BO, 25BW SR-1050
Caroline #6 330/N 1650/W C-28-19-28	c. 3-25-62 TD-1125, Open Hole, 1060-1125 w/15000g. El. 3396 4 1/2" 1060' 100sx IP- 25 BOPD pumping SR-1043
Caroline #7 1650/N 1650/W	c. 5-17-62 TD-1205 sso @ 1158-70, did not acidize El. 3381 SR- 1068 Dry & abandoned.
Betty Ann #1 2310/S 2310/W J-29-19-28	c. 6-1-63 TD-1300, PB-1160; Pf 1046 1/2-52, 57-58, 64-68, 1103-05 El. 3392 4 1/2" 1160' 10Csx 10000g. 7 1/2%; IP- 19 BOPD pumping SR-1012 P&A 5-15-69, pulled 715' 4 1/2" csg
Helen #1 990/N 330/E A-29-19-28	c. 4-8-61 TD-1107, PB-1107; Open hole, 1015-1107 w/15000g. 7 1/2% El. 3396 4 1/2" 1020' 50sx s/o 1030-40, incr 1045-70 SR-1008 IP- 35 BOPD pumping, 32°API
Mary Lou #1 1650/N 330/E H-29-19-28	c. 7-22-61 TD-1252, Pf 1098-1102, 1109-13; 3000g. 15% El. 3389 4 1/2" 1157' 100sx IP- 46 BOPD 16/64 ck, 34°API, CP-100 SR- 1030
Mary Lou #2 1650/N 1650/E G-29-19-28	c. 8-7-61 TD-1252, PB-1178; Pf 1091-95, 1106-09, 13-17; 3250g. El. 3392 4 1/2" 1178' 100sx SOF 25000#/600 BO; SR-1020 IP- 42 BOPD 16/64 ck, 34°API, CP-100
Mary Lou #3 990/N 1650/E	c. 10-24-61 TD-1250 sso @ 996-1005; s/w 1020-50 El. 3406 SR- 984 Dry & abandoned.
Mary Lou #4 2310/N 990/E H-29-19-28	c. 4-23-62 TD-1122, Open hole, 1078-1122 w/ 7500g. El. 3390 4 1/2" 1078' 100sx b. 1/2gph @ 1106, 15gph @ 1115 SR- 1085 IP- 20 BOPD pumping, 36°API
Mary Lou #5 2310/N 1650/E G-29-19-28	c. 5-7-62 TD-1127 Open hole, 1061-1127 w/ 7500g; SOF; El. 3392 4 1/2" 1061' 100sx s/o 1090-95, b. -gph; 1095-1101, SR-1060 b. 75gph; IP- 20 BOPD pumping

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 4268

WATER & OIL PRODUCTION BBLs/DAY
WATER INJECTION BBLs/DAY



BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3A
CASE NO. 4208

TIME-YEARS

10,024 *John Yates*

Exhibit 3a

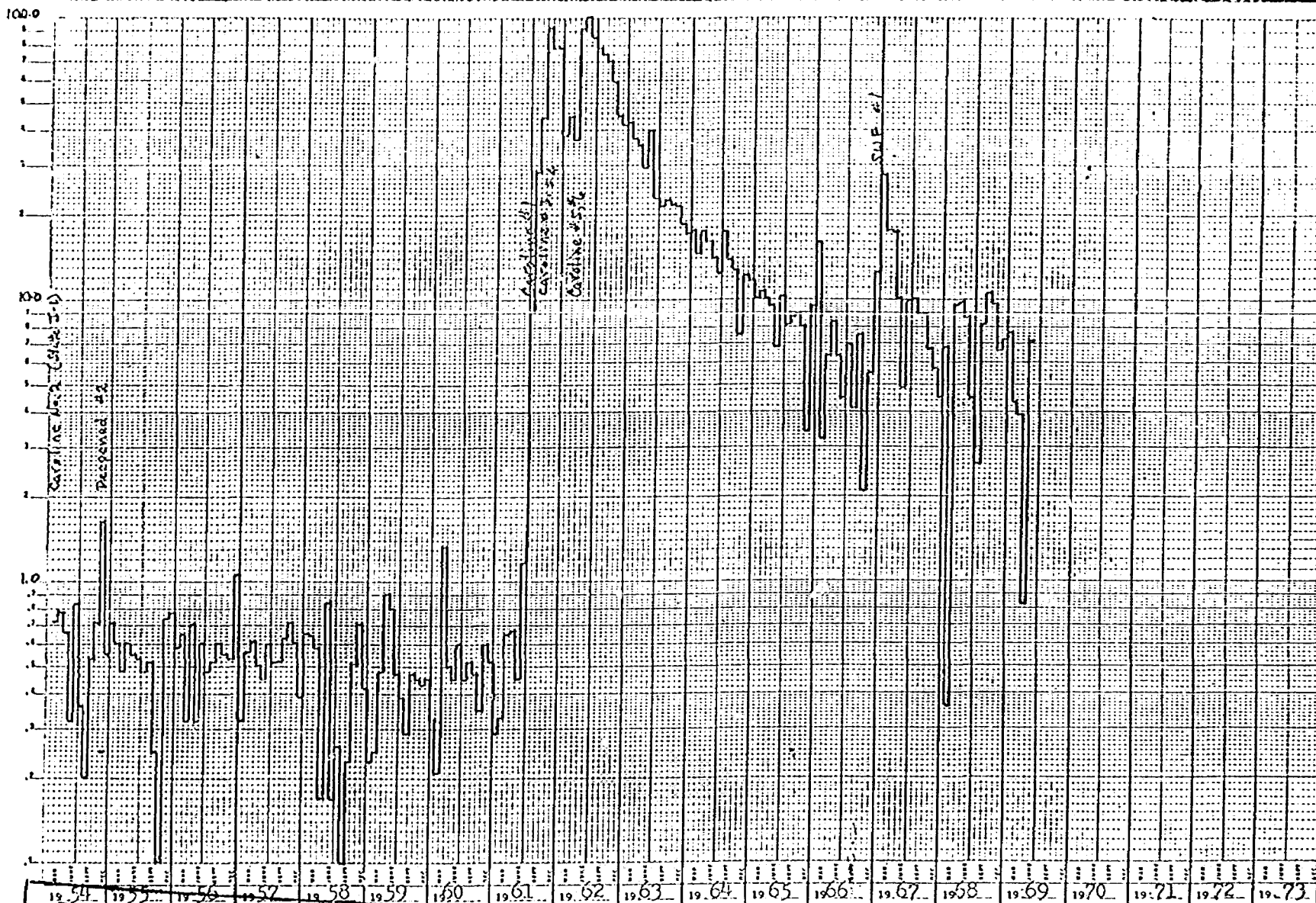
JOHN A. YATES
PRODUCTION DECLINE CURVE
HELEN LEASE
MILLMAN EAST (SEVEN RIVERS)

A hand-drawn graph on millimeter paper showing the relationship between the logarithm of the number of individuals ($\log N$) and the logarithm of the number of species ($\log S$). The y-axis is labeled $\log N$ and ranges from 1.0 to 3.0. The x-axis is labeled $\log S$ and ranges from 1.0 to 3.0. The data points are plotted as a series of horizontal and vertical lines, forming a stepped pattern. The pattern starts at approximately (1.0, 1.0) and extends to (2.5, 2.5). The lines are drawn with a pen, and the graph is titled "log N vs log S".

Exhibit 36 ³⁶¹ 1.3 BFD

JOHN A. YATES
PRODUCTION DECLINE CURVE
MARY LOU LEASE
MILLIAN EAST (SEVEN RIVERS)

WATER & OIL PRODUCTION BBL/DAY
WATER INJECTION BBL/DAY



BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. 3C
CASE NO. 4208

TIME-YEARS

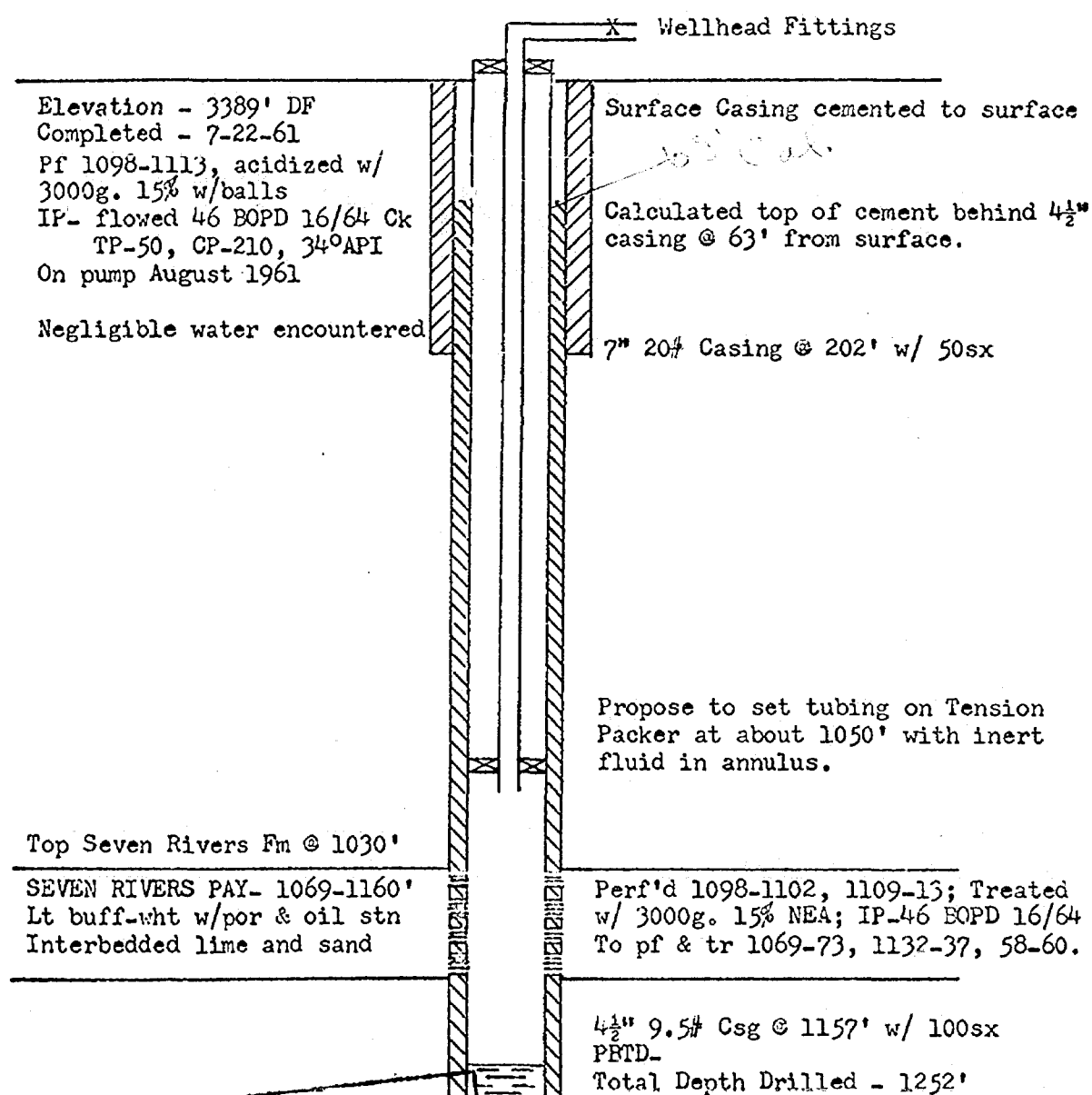
Exhibit 3c

JOHN A. YATES
PRODUCTION DECLINE CURVE
CAROLINE LEASE
MILLMAN EAST (SEVEN RIVERS)

DIAGRAMMATIC SKETCH OF INJECTION WELL

JOHN A. YATES - MARY LOU NO. 1
1650/N 330/E, H-29-19-28
Millman, East (Seven Rivers)
Eddy County, New Mexico

EXHIBIT 5a

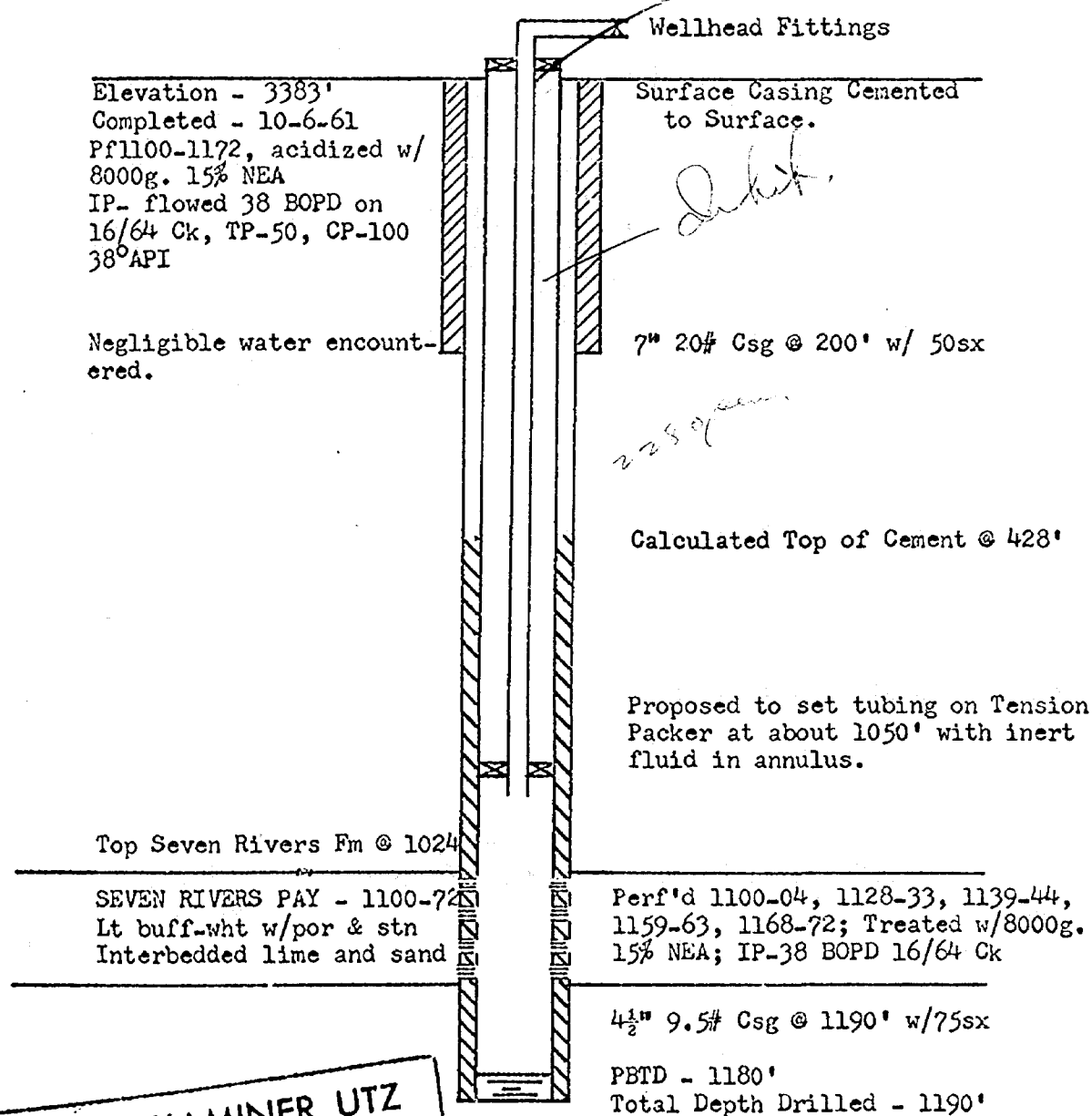


BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5A
CASE NO. 4208

DIAGRAMMATIC SKETCH OF INJECTION WELL

JOHN A. YATES - CAROLINE NO. 4
1650/N 330/W, E-28-19-28
Millman, East (Seven Rivers)
Eddy County, New Mexico

EXHIBIT 5b



BEFORE EXAMINER UTZ
N. CONSERVATION COMMISSION

EXHIBIT NO. 5B

4208

JOHN A. YATES
Oil Producer

ARTESIA: NEW MEXICO - 88210

XXXXXXXXXXXXXXXXXXXX
DIAL 746.3550

August 7, 1969

Mr. A. L. Porter Jr, Secretary-Director
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico, 87501

Case 4208

Re: Application to Inject Water into Seven Rivers
Formation, Millman East Pool, Eddy County

Dear Mr. Porter:

Application is hereby submitted by John A. Yates of Artesia for original authority to inject water into the Seven Rivers formation for a waterflood program in the Millman East (Seven Rivers) Pool, Eddy County, New Mexico. The area is located approximately 19 miles southeast of Artesia.

Permission is asked to convert two producing wells to input located as follows:

[John A. Yates- Mary Lou #1 1650/N 330/E (Unit H) Sec 29-19-28
John A. Yates- Caroline #4 1650/N 330/W (Unit E) Sec 28-19-28

Cumulative production from the Mary Lou lease thru May 1969 is 25,485 barrels oil, and productivity has declined to 36 BOPM from four wells. Cumulative production from the Caroline lease thru May 1969 is 57,018 barrels oil, and productivity has declined to 136 BOPM from five wells.

The oil pay is a series of thin porous limestone interbedded with sand bodies in the uppermost 140 feet of the Seven Rivers formation, occurring at depths of 1045-1200 feet, and appears as bar-type stratigraphic traps on a north-easterly strike, approximately one-third mile in width. There are no core data available for this pool, but production decline curves indicate relatively high permeabilities and a solution gas depletion mechanism.

Original oil in place is estimated at about 600 STBO/ac-ft, and primary production at about 93 STBO/ac-ft, or approximately 16 percent of oil in place. It is anticipated that injectivity will be 275 BWPD per well at 500 psi well-head pressures. Source water will be fresh water from the Double Eagle Corp., an authorized transporter and vender of Ogallala water from the Caprock.

A plat showing the location of the proposed injection wells and other wells within a two-mile radius, and indicating the lessees and producing formations is appended (Exhibit I). Diagrammatic sketches and copies of the electric logs of the proposed input wells are also attached (Exhibits II, III and IV).

Respectfully submitted,

JOHN A. YATES

DOCKET MAILED

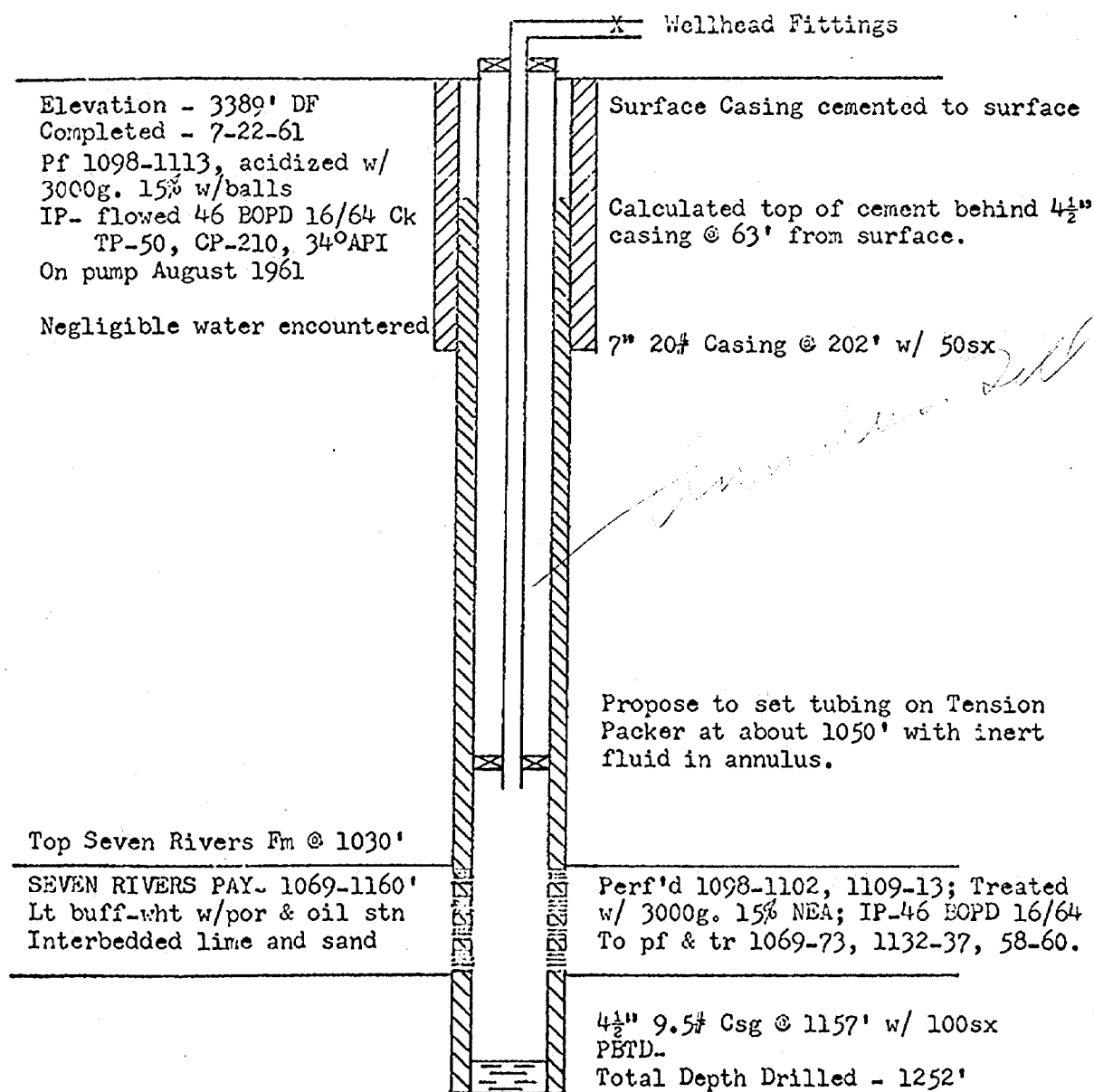
Date 8/15/69

Case 4208

DIAGRAMMATIC SKETCH OF INJECTION WELL

JOHN A. YATES - MARY LOU NO. 1
1650/N 330/E, H-29-19-28
Millman, East (Seven Rivers)
Eddy County, New Mexico

EXHIBIT II

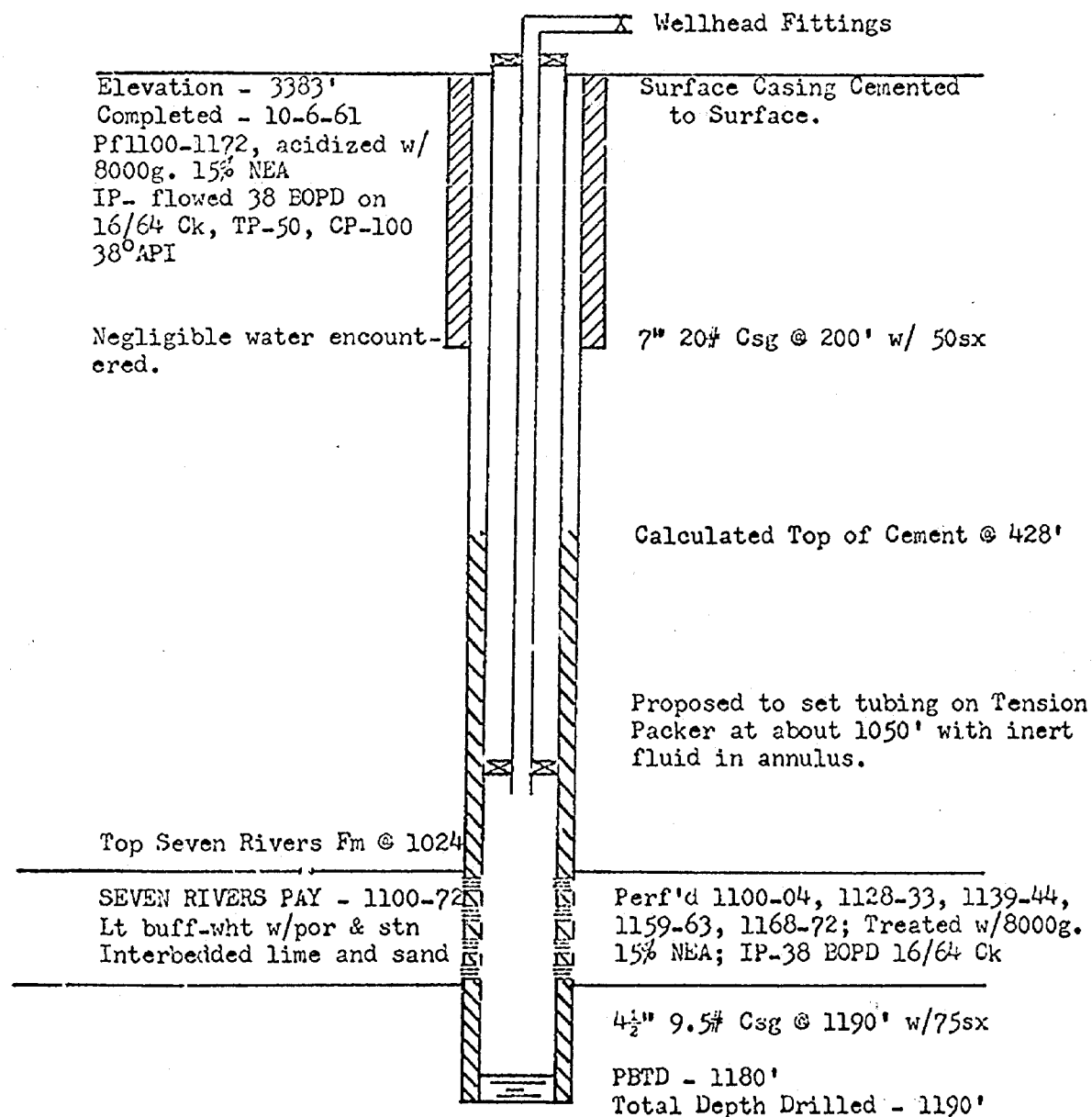


Case 4208

DIAGRAMMATIC SKETCH OF INJECTION WELL

JOHN A. YATES - CAROLINE NO. 4
1650/N 330/W, E-28-19-28
Millman, East (Seven Rivers)
Eddy County, New Mexico

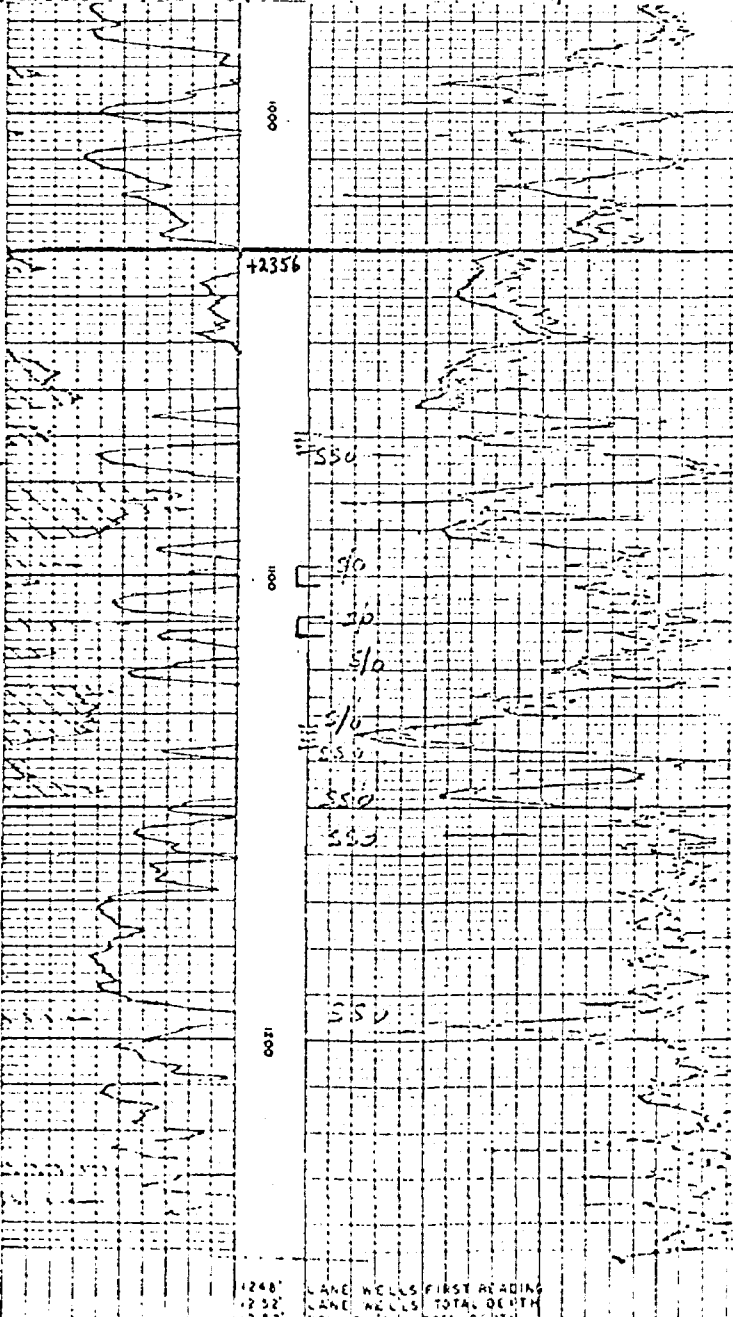
EXHIBIT III



FILE NO.	COMPANY JOHN A. YATES
WELL	MARY LOU No. 1
FIELD	UNDESIGNATED
COUNTY	EDDY STATE NEW MEXICO
LOCATION	330' FEL 1650' FNL
SEC. 29 TWP. 19 S. RGE 21 E	IES

Permanent Datum	GROUND LEVEL	Elv.	
Log Measured from	GROUND LEVEL	Fl. Above Permanent Datum	21
Drilling Measured from	GROUND LEVEL	GL	
Date	7-23-61		
Tool Log	ONE		
Depth—Surface	1232		
Depth—Logger	1232		
Bottom Logged Interval	1248		
Top Logged Interval	100		
Casing—Surface	2227		
Casing—Logger	230		
Log Site	CABLE TOOL		
Type Fluid in Hole	FRESH WATER OIL		
Density and Viscosity			
API and Fluid Loss			
Source of Sample	PIT		
End of Meas. Temp.	34 @ 95'		
End of Meas. Temp.	0 - 1'		
End of Meas. Temp.	0 - 1'		
End of Meas. Temp.	0 - 1'		
Source of End and Int.			
End of Int.	32 @ 85'		

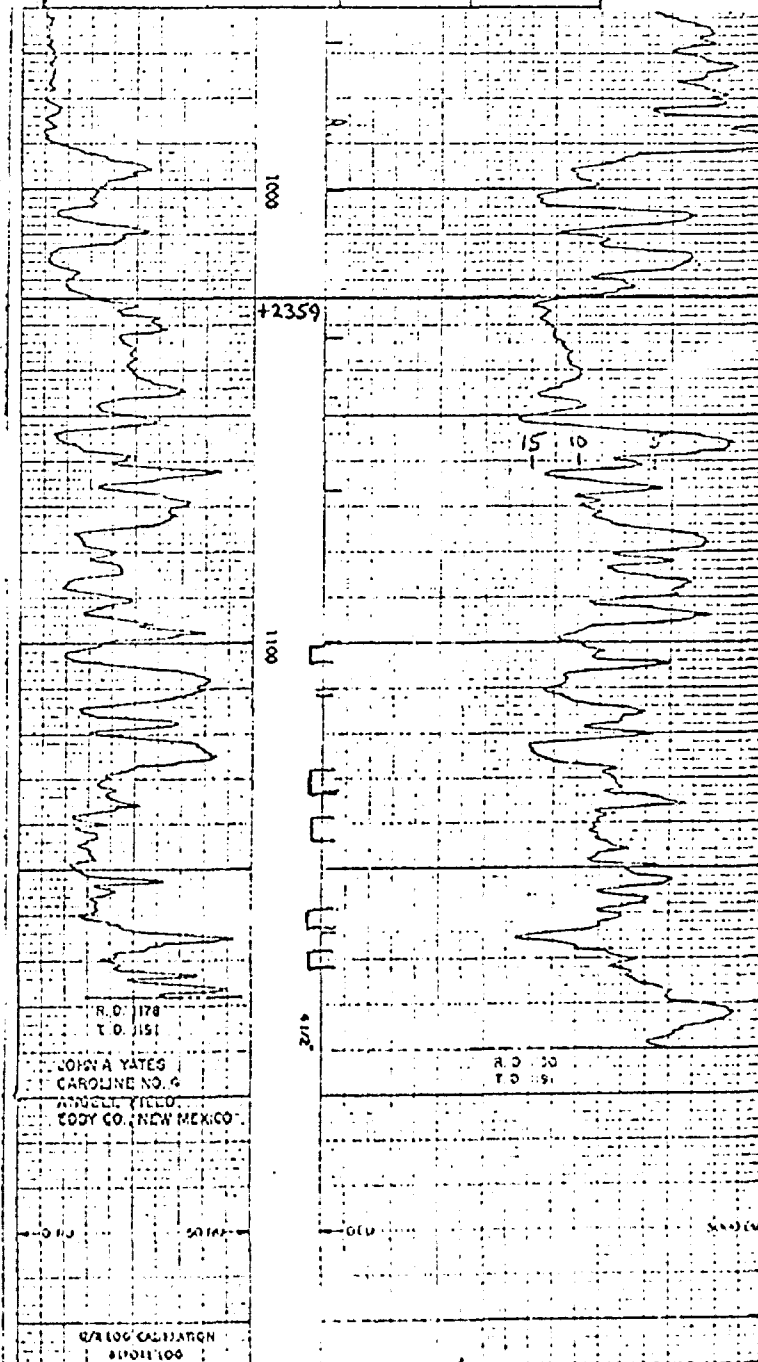
EXHIBIT IV



Case 4208

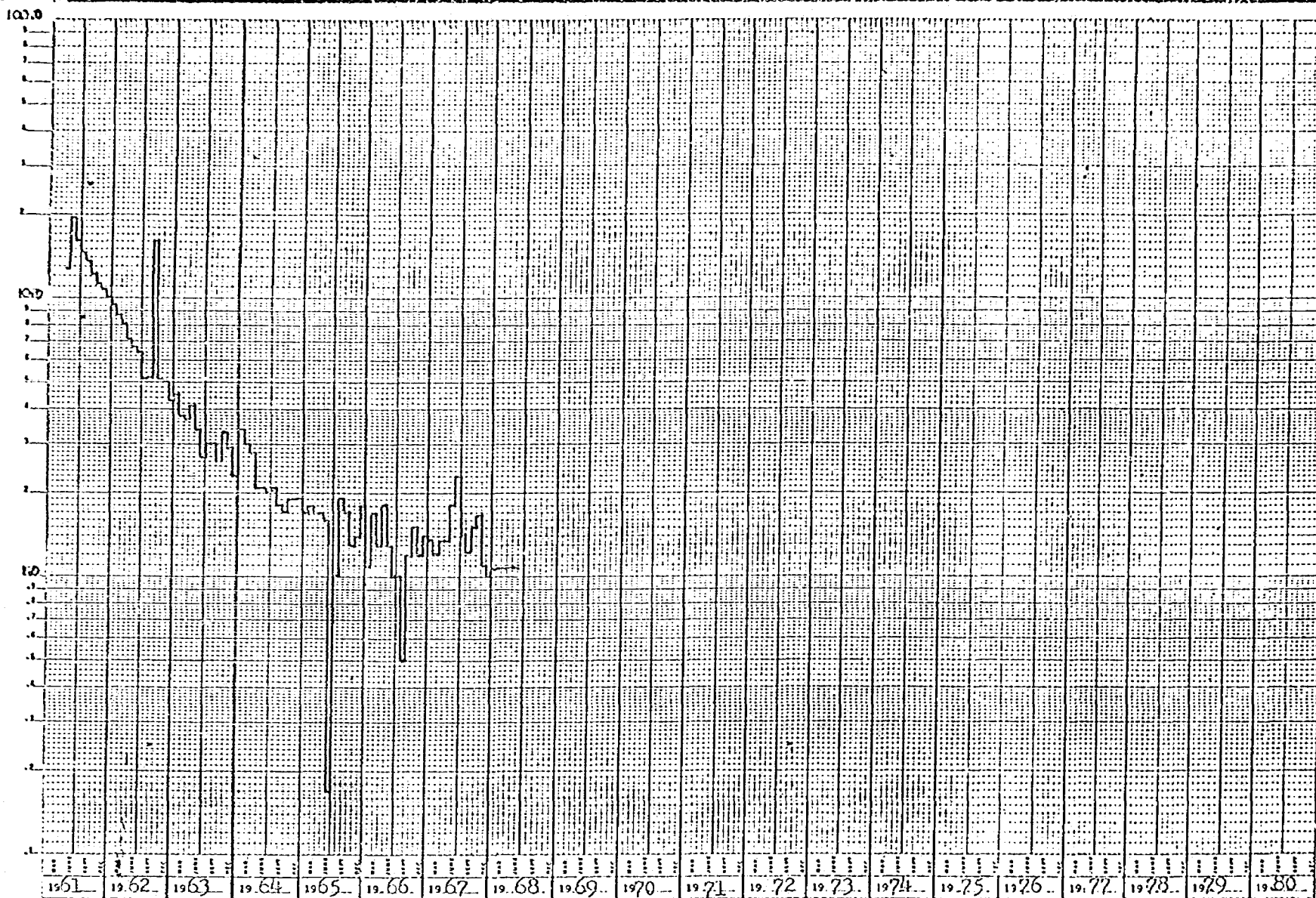
FILE NO.	COMPANY JOHN A. YATES
WELL	CAROLINE No. 4
FIELD	ANSELL
COUNTY	EDDY STATE NEW MEXICO
LOCATION	1050' FEL & 550' FNL
SEC. 29 TWP. 19 S. RGE 21 E	IES

Permanent Datum	GROUND LEVEL	Elv.	
Log Measured from	GROUND LEVEL	Fl. Above Permanent Datum	21
Drilling Measured from	GROUND LEVEL	GL	
Date	7-23-61		
Tool Log	ONE		
Depth—Surface	1232		
Depth—Logger	1232		
Bottom Logged Interval	1248		
Top Logged Interval	100		
Casing—Surface	2227		
Casing—Logger	230		
Log Site	CABLE TOOL		
Type Fluid in Hole	FRESH WATER OIL		
Density and Viscosity			
API and Fluid Loss			
Source of Sample	PIT		
End of Meas. Temp.	34 @ 95'		
End of Meas. Temp.	0 - 1'		
End of Meas. Temp.	0 - 1'		
End of Meas. Temp.	0 - 1'		
Source of End and Int.			
End of Int.	32 @ 85'		



Case 4208

WATER & OIL PRODUCTION BBLs/DAY
WATER INJECTION BBLs/DAY

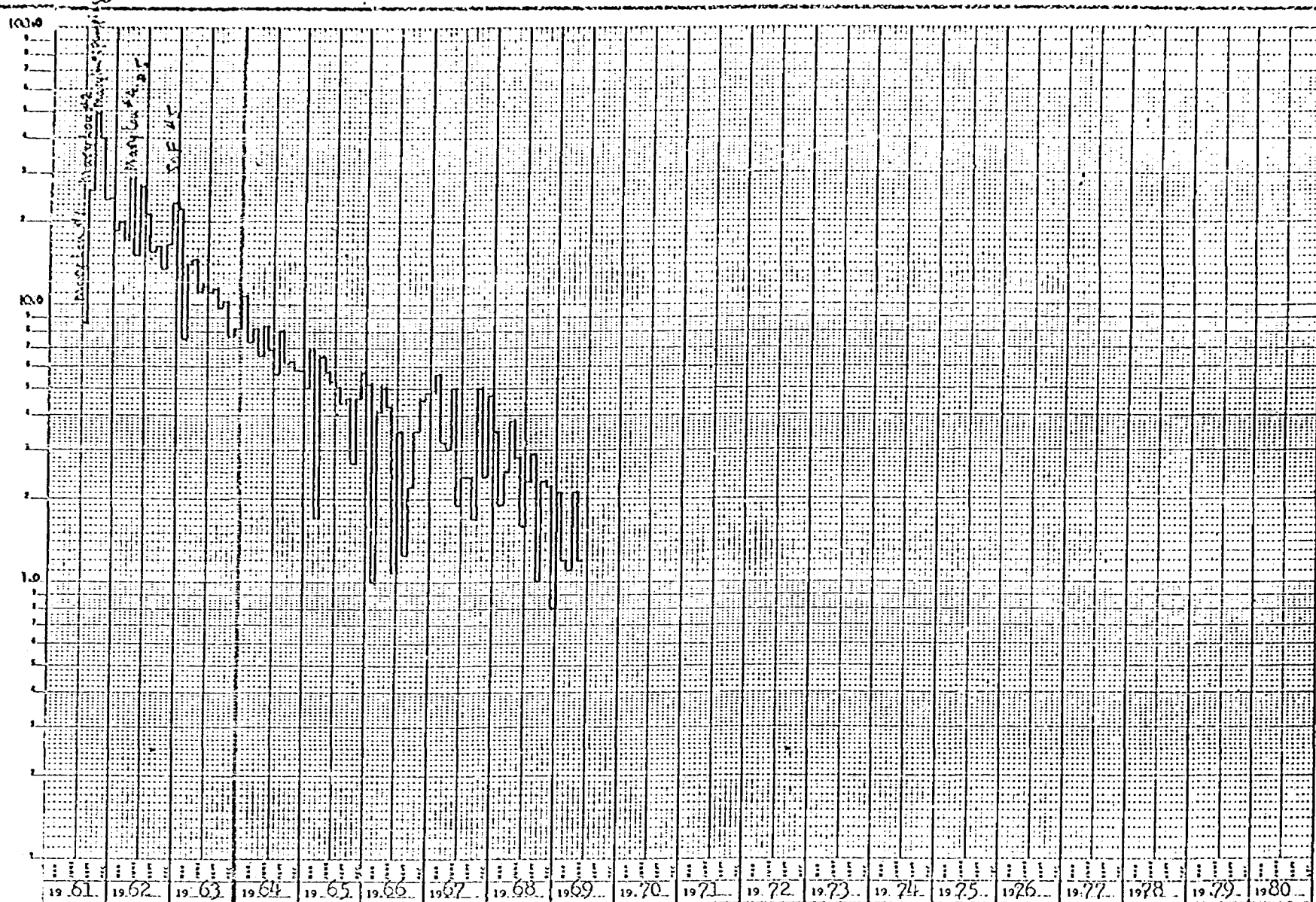


TIME-YEARS

JOHN A. YATES
PRODUCTION DECLINE CURVE
HELEN LEASE
MILLMAN EAST (SEVEN RIVERS)

Case 41208

WATER & OIL PRODUCTION BBL/DAY
WATER INJECTION BBL/DAY

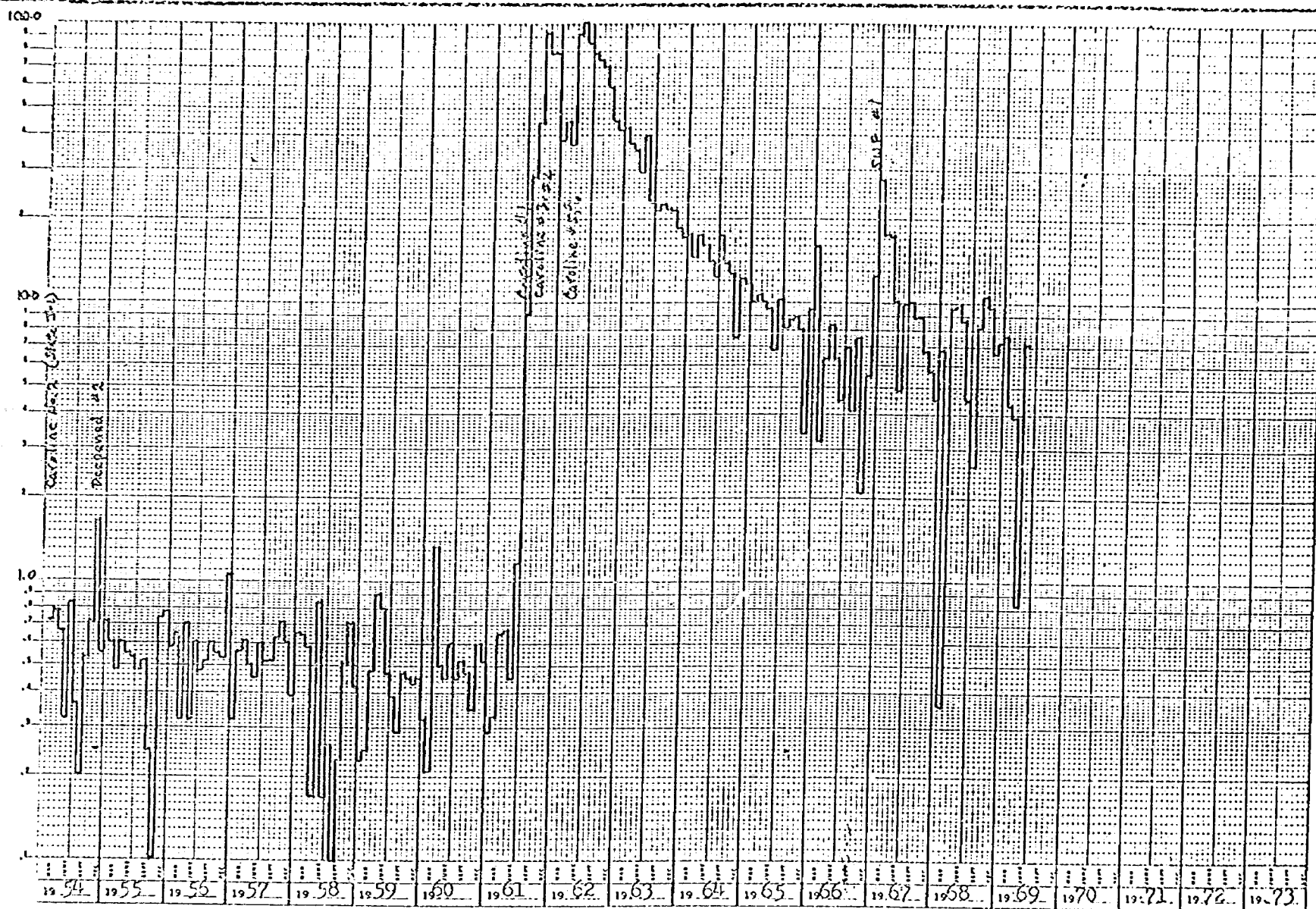


TIME-YEARS

JOHN A. YATES
PRODUCTION DECLINE CURVE
MARY LOU LEASE
MILLMAN EAST (SEVEN RIVERS)

Case 4708

WATER & OIL PRODUCTION BBL/DAY
WATER INJECTION BBL/DAY



TIME-YEARS

JOHN A. YATES
PRODUCTION DECLINE CURVE
CAROLINE LEASE
MILMAN EAST (SEVEN RIVERS)

ROUGH DRAFT FOR WATERFLOOD LETTERS

Mr. A. J. Losee
Attorney at Law
Post Office Box 239
Artesia, New Mexico 88210

Dear Sir:

Reference is made to Commission Order No. R-3841 *scarcely*, entered in Case No. 4208, approving the *John Gates Caroline Millman* Waterflood Project and *the John Gates Mary Lou Midman Waterflood Project.*

Injection into each projection shall be through the one authorized water injection well for that project. In the Mary Lou Midman both projects injection shall be through 2-inch tubing set in a packer at about 1050 feet. The casing tubing annulus in each well shall be loaded with an inert fluid and equipped with a pressure gauge at the surface.

As allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is *168* barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less *and the maximum for the Mary Lou project is 112 barrels per day.* Please report any error in this calculated maximum allowables immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to the projects may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project areas, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the projects and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

cc: OCC: Hobbs X
Artesia X
Aztec

USGS

Mr. Frank Irby, State Engineer Office, Santa Fe, New Mexico
Mr. D. E. Gray

DRAFT

GMH/esr

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

John A. Yates
Apce
lt
John

CASE No. 4208

Order No. R- 3841

JMG *ASP*
APPLICATION OF JOHN A. YATES OF ARTESIA
FOR ^{SEVERAL} ~~/~~ WATERFLOOD PROJECTS, EDDY COUNTY,
NEW MEXICO.

9-15-69

John
ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 27, 1969,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this _____ day of _____, 1969, 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, John A. Yates of Artesia,
seeks permission to institute ^{two} / waterflood projects in the _____
East Millman-
===== ~~Unit Area~~ Seven Rivers Pool by
the injection of water into the Seven Rivers formation
through his Caroline Well No. 4, located in Unit E of Section 28,
and his Mary Lou Well No. 1, located in Unit H of Section 29, both
in Township 19 South, Range 28 East, NMPM, Eddy County, New Mexico.

(3) That the wells in the project areas are in an advanced
state of depletion and should properly be classified as "stripper"
wells.

(4) That the proposed waterflood projects should result in
the recovery of otherwise unrecoverable oil, thereby preventing
waste.

(5) That the subject application should be approved and the projects should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, John A. Yates of ~~Antesia~~,
is hereby authorized to institute / ^{two} waterflood projects in the
East Millman-
===== Unit Area ===== Seven Rivers Pool
by the injection of water into the Seven Rivers formation
^{two}
through the following-described wells in Township 19
~~North~~ South, Range 28 ~~West~~, East, NMPM, Eddy
County, New Mexico:

JOHN YATES CAROLINE MILLMAN WATERFLOOD PROJECT

Injection Well:

Caroline Well No. 4, located in Unit E of
Section 28

JOHN YATES MARYLOU MILLMAN WATERFLOOD PROJECT

Injection Well:

Mary Lou Well No. 1, located in Unit H of
Section 29

(2) That the subject waterflood projects ~~is hereby designated~~
~~the ===== Waterflood Project and~~ shall
be governed by the provisions of Rules 701, 702, and 703 of the
Commission Rules and Regulations.

(3) That monthly progress reports of the waterflood projects
herein authorized shall be submitted to the Commission in accor-
dance with Rules 704 and 1120 of the Commission Rules and Regula-
tions.

(4) 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.