

CASE 3219: Application of HUMBLE
OIL & RFG. CO. for a WATERFLOOD
EXPANSION - LEA COUNTY.

*Continue to
March 24th
Ex. hearing*

CASE NO.
3219

Application,
TRANSCRIPTS,
SMALL Exhibits
ETC.

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

April 8, 1965

C
O
P
Y

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

Dear Sir:

Enclosed herewith is Commission Order No. R-2891, entered in Case No. 3219, approving the expansion of the Hamble State "M" Waterflood Project.

Injection is to be through the authorized injection wells which shall be equipped with tubing and packers. The tubing-casing annulus is to be loaded with an inert fluid and a pressure gauge installed.

As to 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 1554 barrels per day.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the commission and the appropriate district proration office.

In order that the allowable assigned to the project 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

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

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Mr. Sim Christy

Hinkle, Sondurant & Christy

P. O. Box 10

Roswell, New Mexico

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notify both of the aforementioned commission offices by letter of any change in the status of wells in the project area, 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 project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

cc: Mr. Frank Irby
State Engineer Office
Santa Fe, New Mexico

Oil Conservation Commission
Hobbs, New Mexico

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 24, 1965

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 3219: (Continued from March 10, 1965 Examiner Hearing)
Application of Humble Oil & Refining Company for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its State "N" Lease waterflood project by the conversion to water injection of 13 additional wells located in Sections 19, 20, 29, 30 and 31, Township 22 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.
- CASE 3221: Application of Shoreline Exploration Company for an unorthodox location and special cementing and casing program, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill and complete its Snyder #2 at an unorthodox location 1090 feet from the South line and 2310 feet from the East line of Section 16, Township 20 South, Range 33 East, Lea County, New Mexico. Casing, cementing and plug and abandon procedure would conform to statewide rules and regulations, and would be in exception to the casing and cementing rules prescribed for the oil and potash area by Order No. R-111-A.
- CASE 3222: Application of Gulf Oil Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Harry Leonard (NCT-C) Well No. 11 located in Unit K of Section 36, Township 21 South, Range 36 East, Lea County, New Mexico, to produce oil from an undesignated Blinebry Pool and from the Arrowhead Drinkard Pool through parallel strings of tubing.
- CASE 3223: Application of Tenneco Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Wolfcamp formation through the open-hole interval from 10,537 feet to 10,970 feet in its Kemnitz Wolfcamp Unit Well No. 6 located in Unit I of Section 30, Township 16 South, Range 34 East, Lea County, New Mexico.
- CASE 3224: Application of Sinclair Oil & Gas Company for a non-standard proration unit and an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 320-acre non-standard gas proration unit comprising the S/2 of Section 1, Township 24 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be dedicated to its Curry WN Well No. 1 at an unorthodox location 660 feet from the South and East lines of said Section 1.

BUREAU OF 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. 3219
Order No. R-2891

APPLICATION OF HUMBLE OIL & REFINING
COMPANY FOR A WATERFLOOD EXPANSION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on March 24, 1965, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 8th day of April, 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, Humble Oil & Refining Company, seeks permission to expand its State "M" Lease Waterflood Project in the Langlie-Mattix Pool by converting to water injection 13 wells in Sections 19, 20, 29, 30, and 31, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico.

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

(4) That the proposed expansion of the State "M" Lease Waterflood Project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

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

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CASE No. 3219

Order No. R-2891

IT IS THEREFORE ORDERED:

(1) That the applicant, Humble Oil & Refining Company, is hereby authorized to expand its State "M" Lease Waterflood Project in the Langlie-Mattix Pool by converting to water injection the following described 13 wells in Township 22 South, Range 37 East, NMPM, Lea County, New Mexico:

WELL NO.	UNIT	FOOTAGES	SECTION
4	C	600' FNL 1980' FWL	19
13	K	1980' FSL 1980' FWL	20
14	H	1980' FNL, 660' FEL	31
15	N	660' FSL, 1980' FWL	29
16	J	1980' FSL, 1980' FEL	29
22	B	660' FNL, 1980' FEL	29
24	O	660' FSL, 1980' FEL	19
32	M	660' FSL, 660' FWL	19
33	K	1980' FSL, 1880' FWL	19
42	E	892' FWL, 1650' FNL	19
44	I	1650' FSL, 990' FRL	19
45	C	2219' FWL, 330' FNL	30
46*	G	1880' FNL, 1880' FEL	19

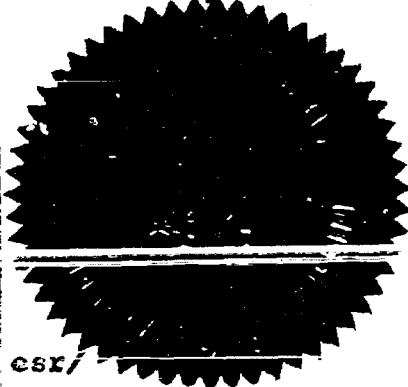
*To be drilled

(2) That the expanded waterflood project 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 expanded waterflood project 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

Jack M. Campbell
JACK M. CAMPBELL, Chairman

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

csr/

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 10, 1965

EXAMINER HEARING

IN THE MATTER OF:

APPLICATION OF HUMBLE OIL & REFINING
COMPANY FOR A WATERFLOOD EXPANSION,
LEA COUNTY, NEW MEXICO

Case No. 3219

BEFORE:

ELVIS A. UTZ

TRANSCRIPT OF HEARING

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

SANTA FE, N. M.
PHONE 983-3971

ALBUQUERQUE, N. M.
PHONE 243-6691

MR. UTZ: Case Number 3219.

MR. DURRETT: Application of Humble Oil & Refining Company for a waterflood expansion, Lea County, New Mexico.

If the Examiner please, I would like to state for the record that I have received a letter from Mr. R. R. Alworth, with Humble Oil Refining Company, requesting that this case be continued to March 24th hearing.

MR. UTZ: Case Number 3219 will be continued to March 24th.

* * *

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ELIZABETH K. HALE, Notary Public and Court Reporter, do hereby certify that the proceedings in the foregoing case were taken and transcribed by me, and that the foregoing is a true and correct transcript of proceedings to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF, my hand and seal of office this 24th day of March, 1965.

Elizabeth K. Hale

Notary Public

My commission expires
May 23, 1968.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3219, heard by me on *Mar. 10*, 1965.

Shirley D. [Signature], Examiner
New Mexico Oil Conservation Commission

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DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

SANTA FE, N. M.
PHONE 963-3971

ALBUQUERQUE, N. M.
PHONE 243-6631

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

EXAMINER HEARING

IN THE MATTER OF: Application of Humble
Oil & Refining Company for a waterflood
expansion, Lea County, New Mexico.

Case No. 3219

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

dearnley-meier reporting services, inc.

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

1120 SIMAS BLDG. • P. O. BOX 1092 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 24, 1965

EXAMINER HEARING

-----)
IN THE MATTER OF: Application of Humble)
Oil & refining Company for a waterflood)
expansion, Lea County, New Mexico.)
Applicant in the above-styled cause,)
seeks authority to expand its State "M")
Lease waterflood project by the)
conversion to water injection of 13)
additional wells located in Sections 19,)
20, 29, 30 and 31, Township 22 South,)
Range 37 East, Langlie-Mattix Pool, Lea)
County, New Mex. Co.)
-----)

Case 3219

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: The hearing will come to order, please.

The first case this morning will be Case 3219.

MR. DURRETT: Application of Humble Oil and Refining
Company for a waterflood expansion, Lea County, New Mexico.

MR. CHRISTY: Sim Christy, Hinkle, Bondurant and
Christy, Roswell, for the Applicant Humble. I have one witness.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1
through 9 marked for identification.)

MR. CHRISTY: Mr. Examiner, this matter initiated in
Case 2879, Order 2556, which permitted a pilot waterflood

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project in the Langlie-Mattix and Eumont Pools by the injection of water in the Queen formation through six wells, in what is known as Humble's State "M" Lease. The matter has now come on for an Examiner Hearing by virtue of the application of Humble to extend the pilot project beyond the limits permitted by administrative approval under Rule 701.

ROBERT L. BARTON, called as 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, and occupation, and by whom you are employed, and in what capacity?

A My name is Robert Barton. I'm employed by Humble Oil and Refining Company in Hobbs. Our Hobbs District Office address is Box 2100.

Q What do you do with Humble?

A I'm an engineer.

Q Mr. Barton, have you previously testified before this regulatory body?

A No, I have not.

Q Would you please briefly tell the Examiner the institutions of higher learning that you attended, and the degrees, if any, that you received?

A I attended the University of Houston, graduating in

1954, with a B. S. in Petroleum Engineering.

Q Since 1954, when you graduated, by whom have you been employed?

A I have been employed by Humble that entire time.

Q As a petroleum engineer?

A Yes, I have.

Q Have you worked in the West Texas and New Mexico area as a petroleum engineer for Humble?

A Yes, I have.

Q Are you familiar with what is sought in this case?

A Yes, I am.

Q Are you familiar with the areas and the wells involved in the application?

A Yes, I am.

MR. CHRISTY: Does the Examiner have any questions concerning the qualifications of the witness?

MR. UTZ: No, the witness is qualified.

Q (By Mr. Christy) I'll refer you briefly to Exhibit 1 and ask you to just briefly identify it for us so we may orient ourselves.

A Exhibit 1 shows the general area of our State "M" Lease; State "M" Lease being in yellow. It shows the boundaries or outlines of the nearby pools, State "M" Lease being prorated in the Langlie-Mattix Pool. Langlie-Mattix Pool

is outlined here in a red line; such that our "M" Lease is essentially in the northwest corner of the Langlie-Mattix Pool as defined.

Q Now, sir, I notice that in the southeast quarter of Section 13 and in the southwest-southwest of Section 17 you colored that in in yellow. That's part of the State "M" Lease but not involved in this application, is that correct?

A That's correct.

Q They are producing from other horizons?

A That's right.

Q You have depicted over to the east of your State "M" Lease, what you show in pencil here, what is an Ambassador unit; that is a recently formed unit?

A Yes, this is Langlie-Mattix, Penrose and Ambassador. They are in the process of expanding the waterflood.

MR. NUTTER: Is that the area cross-hatched?

A Yes. To the yellow acreage we have shown the existing injection wells, the six wells, a double five spot pilot near the center of the well. These are shown in the triangles. In the squares are the proposed wells for injection.

Q Carrying that a step further, let's refer to Exhibit 2, which is a little easier to see. This is a blown up version of your State "M" Lease, is it not?

Yes.

Q Here we see circled in red the present six injection wells, and circled in dotted red the proposed 13 additional?

A This is correct.

Q You have some pencil figures there, and you have hexagon circles around certain wells. Would you explain both of those, please?

A These are the wells. There are seven of these. They include the two center producers and five wells outside the two five-spots in the pilot. These seven wells are those wells that have responded as a result of injecting water into the six pilot injection wells.

The figures shown here are monthly oil production, percent water and gas-oil ratio for the months of January of 1964, shown on top of the line, and January, 1965 shown below the line. The intent here is to simply show that the seven wells have responded from pilot injection.

The production figures shown here are from the Form C-102, Monthly Injection Report, that is filed with the Commission, and the forms for these two particular months are attached to the back of this map.

Q Now, you were mentioning the gas-oil ratios. I'll refer you to Exhibit 3 and ask you to briefly identify this exhibit and tell us what it depicts?



A Exhibit 3 is a listing on a Form C-116, of 24-hour well tests for these same seven wells, that have shown response, as opposed to monthly production, as shown on the preceding exhibit. A daily well test is shown here. The same effect is shown, that is response to injection by the production of oil during the test increasing in every case, and significant reduction in gas-oil ratios. These tests were taken approximately a year apart in each case, roughly the first of 1964 and again in the first of 1965.

Q You mentioned the gas-oil ratios are going down. I believe that's more particularly depicted in Exhibit 4, is not?

A That's right. Exhibit 4 is a plot on each of these seven wells of monthly oil production percent water and gas-oil ratios since the first of 1963. We started injecting these six pilot wells in November of 1963, and injection has been continued now for some sixteen months. In each case here the solid line on the plot is gas-oil ratio.

Q That's your top line?

A In the case of the M-30 that's correct, that's the top line. We can see a significant decrease in the ratio here. The dashed line is monthly oil production, and the dashed line with short and long alternate dashes here depicts percent water. These are based again on monthly production volumes, and in each

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of these seven wells shown in this exhibit, the same general trend is shown, that is, decreasing ratios, increasing oil production as a result of the injection in the six pilot wells.

Q Now, the 13 proposed wells in this application, have they all been drilled?

A Yes, 13 of the wells have. We propose to inject in one additional well that will be drilled later.

Q Could you identify that 14th well for us, back on Exhibit 2?

A That would be Well 46, which would be a twin to Well Number 7, which is plugged and abandoned. It is in Section 19, in location G, I believe that is.

Q That would be in southwest-northeast of Section 19?

A That's correct.

Q Do you have a log on these 13 wells that you have so far drilled?

A Yes, we have a section of log for each of the 13 wells to show the zones of interest.

Q Is that Exhibit 5?

A That is Exhibit 5.

Q All right.

A A log for each of the wells is shown here. The zones are shown. They are continuous throughout our lease, and injection should be effective in any part of the lease, as it

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has been in the center of the lease where the pilot exists.

Q You feel this has been shown to your satisfaction at this time?

A Right. We feel that response, as result of injection in the pilot is indicative of the response that can be expected throughout the entire lease.

Q I believe in the past case, Order R-2556 in Case 2879, certain casing program was set up for these injection wells; and I'll refer you to Exhibit 6, and ask you about the casing program on the 14 wells, 13 at the moment?

A This is a sketch of a typical injection well showing that injection will be through tubing, under a packer; that it will be set well below the top of the cement outside the casing. It shows that we will have an inhibited liquid in the tubing-casing annulus, and that we will have a pressure gauge on the tubing-casing annulus to determine the effective seal of the packer.

One point is that this is generally a typical well, except for the earlier wells drilled on the lease, and that would include Wells Number 14 and 13, in which five and a half inch casing is set, as opposed to the 2 and seven-eighths that we show in this exhibit, and two-inch tubing will be used as opposed to this 1.5 tubing that we show on the sketch. With those two exceptions, all the other wells will be as shown on

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the sketch.

Q Your packer is going to be set at 3400 feet below the tubing?

A That's right, it will be set on the end of the tubing at approximately 3400 feet. It will be set fairly close to the perforated intervals, and it will be well below the top of the cement outside the casing.

Q And you will use a pressure gauge to be sure there is no leakage out of the packer, is that correct?

A That is correct.

Q I believe Exhibit 7 briefly shows your casing program on these wells?

A This is correct. This simply sets out the casing and either measured or calculated top of the cement outside both surface and oil string casing.

Q What kind of water are you using in this injection?

A We are using, and plan to continue to use San Andres.

Q Is it potable or non-potable?

A It is potable water. We plan to inject at the rate of approximately 2000 barrels per well per day, initially. This injection is into the Queen at approximately 3700 feet.

Q I believe you furnished the State Engineer's Office with a copy of your application, is that correct?

A That's correct.

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Q And Exhibit 8 is the State Engineer's letter of March 5th to the Secretary-Director of the Oil Conservation Commission approving the proposed expansion of the pilot waterflood. I notice that the letter mentions that the approval is contingent upon completing the injection wells in accordance with Paragraph 2 of Order R-2556, and that the permanent type packer is set well below the top of the cement. Referring you back to Exhibit 6, I believe this is not what you would truly call a permanent packer, is that correct?

A That's correct. It should be pointed out that we will have a packer in each injection well, and that the effectiveness of this packer will be shown with the regular pressure readings on the tube annulus casing pressure gauge.

So that, in essence, this is a permanent installation until such time as well work is required; when the packer is pulled with the tubing, in the event a true permanent packer were in place, and well work were required, by simply drilling out the packer, we would have the same situation that we have now. At any time that injection is taking place, we will have an effective seal, such that injection will be accomplished down the tubing and under a packer, and the unprotected portion of the casing will not be exposed to the injection.

MR. CHRISTY: May the record show that Mr. Irby is present here at the hearing, and may examine the witness in

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connection with that packer question.

Q (By Mr. Christy) I believe the last exhibit you have is Exhibit 9, showing your actual location of these wells, which is further depicted on Exhibit 2, but shows the actual footage, is that correct?

A That's correct, simply the surface location.

Q This is a more or less step out from normal spans of a pilot flood. Do you feel now that you have sufficient information to justify stepping out?

A Yes, we do. The continuity of the reservoir and the results that we have had to date from the pilot we feel justifies a expansion through the entire lease.

Q Is there something else that you think would be of interest to the Examiner, that I have not covered?

A I believe that completes it.

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

MR. UTZ: Any questions of Mr. Barton?

MR. IRBY: Yes.

MR. UTZ: Mr. Irby.

MR. IRBY: Frank Irby, Engineer's Office.

CROSS EXAMINATION

BY MR. IRBY:

Q Did you state what the injection pressure will be?

A The injection pressure on the wells that we have now

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currently range from 1,300 to approximately 1,700 pounds surface pressure. This has increased rapidly on initial injection, but it is constant now and has been over the past three or four months.

Q The packers to be used in these wells are designed to take care of this?

A That's correct.

Q And as I understand you, you will have control on the annulus between the tubing and the casing, which you think will reveal any failure of the packer?

A That's correct.

MR. IRBY: That's all I have.

MR. UTZ: Mr. Durrett.

BY MR. DURRETT:

Q Mr. Barton, did you state that you are now seeking authority to place this Well Number 46 on injection?

A Yes, sir.

Q Will that make you a total of 14 wells?

A That's correct, 13 existing wells, and one additional new well would be 14 total.

MR. DURRETT: Mr. Christy, I believe the ad just covered 13 wells.

MR. CHRISTY: We have no objection to omitting the 14th well at this time.

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MR. DURRETT: Would you feel that there's a good probability that this could be handled administratively?

MR. CHRISTY: The 14th well, that's what I had in mind. We can handle it administratively if the publication was that way.

MR. DURRETT: All right.

MR. NUTTER: This is all the same basic lease?

A Yes.

MR. NUTTER: Have you made any computation as to what the allowable will be that you will receive when all these wells are placed on injection?

A No, sir, I don't have it.

MR. NUTTER: Any further questions of the witness? He may be excused.

MR. CHRISTY: At this we would like to introduce in evidence Applicant's Exhibits 1 through 9.

MR. NUTTER: Applicant's Exhibits 1 through 9 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 9 admitted in evidence.)

MR. NUTTER: Do you have anything further, Mr. Christy?

MR. CHRISTY: No.

MR. NUTTER: Does anyone have anything further to offer in Case 3219? We will take the case under advisement.

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STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission Examiner at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 29th day of March, 1965.

Ada Dearnley
Notary Public - Court Reporter

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3219 heard by me on *Mar 24*, 19 *65*.
Joanna Examiner
New Mexico Oil Conservation Commission

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARINGSANTA FE, NEW MEXICOREGISTERHEARING DATE MARCH 24, 1965 TIME: 9 A.M.

NAME:	REPRESENTING:	LOCATION:
<i>[Signature]</i>	Hobbs, Condensate & Gravity	Roswell, NM
R.L. Parker	Humble	Hobbs, N.M.
H.M. Anderson	Sinclair	Midland
W.H. Kestler	Gulf Oil Corp	Roswell
J.H. Hoover	✓	✓
N. Dillamore	Byram Co.	Austin
E. J. Neal	Harroun & Hayworth	Carlsbad NM
D.S. Harroun	" "	"
Borhan Kelli	Valley Mills, NM	✓
Bank & Lofy	State Engrs	Santa Fe
Alan Zell	Zimmerman	✓
James J. Jerning	✓	✓
Mike Johnson	Houston	Hobbs, NM

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 3/31/65

CASE 3219

Hearing Date 9am 3/24/65

DSN @ OK

My recommendations for an order in the above numbered cases are as follows:

Enter an order authorizing Humble Oil & Refining Co to expand its State "M" Waterflood Project in the Langley Mathis Pool by the conversion to water injection of the wells listed on Exhibit A except No. 41 in "O" of 30-22S-37E. Provide that operator should seek administrative approval for conversion of this well.

Find that the pilot flood which has been operation for some time indicates susceptibility of the reservoir to successful secondary recovery and that approval of the expansion should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.





STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

March 5, 1965

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, N. M.

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

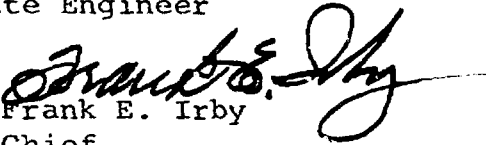
Dear Mr. Porter:

Reference is made to the application of Humble Oil & Refining Company dated February 16, 1965 seeking approval to convert to injection the 13 wells listed on the attachment and also to use the new well listed for injection. The wells are identified on the attachment as State M Lease Wells 4, 13, 14, 15, 16, 22, 24, 32, 33, 41, 42, 44, 45 and 46. The new well being No. 46.

This office offers no objection to the granting of the application provided injection is accomplished in the manner set forth in paragraph 2 of the Order R-2556 which resulted from the hearing on Case 2879 and further provided that in each well, including the new one, the permanent type packer is set well below the top of the cement surrounding the casing in which it is set.

Yours truly,

S. E. Reynolds
State Engineer

By: 
Frank E. Irby
Chief
Water Rights Division

FEI/ma
cc-Humble Oil & Ref. Co.
F. H. Hennighausen

HUMBLE OIL & REFINING COMPANY

Midland, Texas

~~FEB 10 1965~~

Request for Waterflood
Expansion Approval

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

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

Dear Sir:

Oil Conservation Commission Order No. R-2556 authorized Humble Oil and Refining Company to institute a waterflood project on the New Mexico State "M" Lease in Township 22 South, Range 37 East, NMPM, Lea County, New Mexico. Six wells, State M-23, 26, 28, 31, 37 and 38 were designated as injection wells.

This pilot flood has been in operation for fourteen months and good response in terms of improved oil production and reduced gas-oil ratios have been observed in all wells offset by two or more injection wells. None of the wells have suffered water breakthrough. The attached Commission Forms C-116 reflect the magnitude of the response between January and October of 1964. The State "M" Lease is offset to the east by the Ambassador Langlie Mattix Penrose Sand Unit and to the south by the proposed Skelly Penrose Unit "B". Expansion of the former Unit is in progress and it is understood that injection in the latter Unit is anticipated this year.

Based on performance of the pilot, waterflooding is indicated to be a feasible engineering and economic operation and therefore Humble desires to expand this flood to essentially all of the productive portion of the State "M" Lease. It is recognized that the northwestern extremity and southwestern tip of the proposed expansion have not responded sufficiently from this small pilot to comply with all specifics as set out in Rule 701. However, present day income to the State of New Mexico as well as Humble would be deferred approximately one year in order to meet all requirements without a hearing. Humble hereby requests the Commission to grant administrative approval to convert to injection the 13 wells listed on the attachment and also to use the new well listed for injection.

DOCKET MAILED

~~2-26-65~~

HUMBLE OIL & REFINING COMPANY

65 FEB 18 1965

Page 2

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

The following attachments accompany this request in compliance with Statewide Rule 701.

1. Plat showing proposed injection wells and all other wells within two miles.
2. Logs of the proposed injection wells, except for one well not yet drilled.
3. Diagrammatic sketch of a typical proposed injection well with a tabulation of required information on all proposed injection wells.
4. Tabulation of other pertinent information.
5. Evidence of sending copy of application to the State Engineer's office.
6. Commission reports showing production before and after flood response.

Your consideration of this request will be appreciated.

Very truly yours,

DOCKET MAILED

HUMBLE OIL & REFINING COMPANY

Date ~~_____~~

COPY

ORIGINAL
SIGNED: R. R. MC CARTY
R. R. McCarty

RLB/mcb

Orig & 2 cc: Mr. A. L. Porter, Jr., Box 871, Santa Fe, New Mexico
W/Attachments
cc: N.M. State Engineer's Office, Box 1079, Santa Fe, N. M.
W/Attachments
cc: Mr. Joe Ramey, N.M.O.C.C., Box 1980, Hobbs, N. M.
W/Attachments
cc: Amerada Pet. Corp., Box 312, Midland, Texas
Gulf Oil Corp., Box 1938, Roswell, N. M.
Marathon Oil Co., Box 552, Midland, Texas
Ambassador Oil Corp., Box 9338, Fort Worth, Texas
Dalport Oil Corp., 930 Fidelity Union Life Bldg., Dallas, Texas
Texas Pacific Oil Co., 2700 Fidelity Union Twr., Dallas, Texas
Compass Exploration, Inc., 1645 Court Place, Denver 2, Colorado



SKELLY OIL COMPANY

P. O. Box 1650
TULSA 2, OKLAHOMA

PRODUCTION DEPARTMENT

C. L. BLACKSHER, VICE PRESIDENT
W. P. WHITMORE, MGR. PRODUCTION
W. D. CARSON, MGR. TECHNICAL SERVICES
ROBERT G. HILTZ, MGR. JOINT OPERATIONS
GEORGE W. SELINGER, MGR. CONSERVATION

March 19, 1965

VIA AIR MAIL

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

Dear Mr. Porter:

Case 3219 is set for hearing Wednesday, March 24, 1965, to consider the application of Humble for authority to expand its State "MM" Lease waterflood project by conversion to water injection of 13 additional wells located in Sections 19, 20, 29, 30 and 31, Township 22 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

We have acreage in Section 20, and are interested in knowing the location of the requested 13 additional wells, and would appreciate being advised of the locations.

Yours very truly,

George W. Selinger

GWS:br

*For 4/22/11
9/8
Called Mr. Selinger
& gave him the
locations.
Don*

HUMBLE OIL & REFINING COMPANY

Case 3219
Box 2100
Hobbs, New Mexico
February 22, 1965

Request to Continue Hearing

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

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

Dear Sir:

A hearing has been scheduled for March 10, 1965, concerning Humble Oil and Refining Company's application for approval to expand the New Mexico State "M" Lease Waterflood, authorized by Oil Conservation Commission Order No. R-2556. It is requested that this application be continued to the hearing on March 24, 1965.

Yours very truly,

HUMBLE OIL & REFINING COMPANY

R. R. Alworth
R. R. Alworth

RLB/mcb

DOCKET MAILED

Date *3-9-65*

3210
Hobbs, New Mexico
October 28, 1964

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico 88240

Gentlemen:

Humble requests the following New Mexico State "M" wells be raised effective October 1, 1964, as the result of recent well tests.

New Mexico State "M", well No. 20, Unit "F", Section 29, T-22-S, R-37-E, Langlie Mattix Pool, be raised from 5 to 10 barrels per day.

New Mexico State "M", well No. 27, Unit "H", Section 30, T-22-S, R-37-E, Langlie Mattix Pool, be raised from 32 to 35 barrels per day.

New Mexico State "M", well No. 30, Unit "P", Section 19, T-22-S, R-37-E, Langlie Mattix Pool, be raised from 6 to 10 barrels per day.

These wells are in Humble's Langlie Mattix Water Flood Project as authorized in Order H-2556 of August 23, 1963.

Very truly yours,

HUMBLE OIL & REFINING CO.

R. R. Alworth
District Superintendent

DPL/afc

594-2287

Hobbs, New Mexico
October 14, 1964

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico

Gentlemen:

Humble requests New Mexico State "M", Well No. 25, Langlie Mattix, Unit "L", Section 29, T-22-S, R-37-E, be raised from 12 to 22 barrels per day effective October 1, 1964, as result of recent well test.

This well is in Humble's Langlie Mattix Water Flood Project as authorized in Order R-2556 of August 23, 1963.

Very truly yours,

HUMBLE OIL & REFINING COMPANY

R. R. Alworth
District Superintendent

DFL/afc

allow for

NEW MEXICO
OIL CONSERVATION COMMISSION
P. O. BOX 1980
HOBBS, NEW MEXICO

October 1964
No. 65

SUPPLEMENT TO THE OIL PRORATION SCHEDULE

DATE October 1, 1964

PURPOSE: ALLOWABLE REVISION (SECOND MONTH)

Effective October 1, 1964, the allowable of the Humble Oil & Refining Company, New Mexico State M, 34-D, 29-22-37, Langlie Mattix Pool, is hereby increased from 5 barrels daily to 18 barrels daily or a total of 558 barrels for the month.

*Posted to
Sub*

*Posted
mailed to pump*

JDR/eb

Humble

T.N.M.

OIL CONSERVATION COMMISSION

Joe Mattix
SUPERVISOR, DISTRICT NO. 1

OPERATOR'S COPY

Hobbs, New Mexico
September 30, 1964

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico

Gentlemen:

Humble requests New Mexico State "M", Well No. 34, Langlie Mattix, Unit "D", Section 29, T-22-S, R-37-E, be raised from 7 to 18 barrels per day effective September 1, 1964, as result of recent well test.

This well is in Humble's Langlie Mattix water Flood Project as authorized in Order R-2556 of August 23, 1964.

Pasted

Very truly yours,

HUMBLE OIL & REFINING COMPANY

R. R. Alworth
District Superintendent

DFL/afc

Box 2100
Hobbs, New Mexico
August 21, 1964

New Mexico Oil Conservation Commission
Box 1980
Hobbs, New Mexico

Gentlemen:

Humble requests the following wells allowables be raised as a result of recent well tests:

New Mexico State M, Well No. 25, Langlie Mattix Pool,
Unit L, Section 29, T-22-S, R-37-E, be raised from
4 barrels to 12 barrels per day.

New Mexico State M, Well No. 27, Langlie Mattix Pool,
Unit H, Section 30, T-22-S, R-37-E, be raised from 23
barrels to 32 barrels per day.

New Mexico State M, Well No. 35, Langlie Mattix Pool,
Unit B, Section 30, T-22-S, R-37-E, be raised from
12 barrels to 17 barrels per day.

These wells are in Humble's Langlie Mattix Water Flood Project
as authorized in order R-2556 of August 23, 1963.

Very truly yours,

HUMBLE OIL & REFINING COMPANY

R. R. Alworth
District Superintendent

By _____
E. S. Davis

RDB/pjw

Hobbs, New Mexico
April 29, 1964

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico

Gentlemen:

We request allowables for following wells be raised effective
April 1, 1963 as the result of recent well tests:

New Mexico State "M", Well No. 27, Unit "H", Section 30,
T-22-S, R-37-E, from 19 to 23 barrels per day, 49.0

New Mexico State "M", Well No. 35, Unit "B", Section 30,
T-22-S, R-37-E, from 7 to 12 barrels per day. 36.0

These wells are in Humble's Langlie Mattix Water Flood Project
as authorized in Order R-2556 of August 23, 1963.

Very truly yours,

HUMBLE OIL & REFINING CO.

R. R. Alworth
District Superintendent

By E. S. Davis

DFL/afo

*allowables eff
4-1-64
Remy*

Hobbs, New Mexico
April 17, 1964

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico 88240

Gentlemen:

We request allowable for New Mexico State "NN", Well No. 30, Langlie Mattix Pool, Unit "P", Section 19, T-22-S, R-37-E, Lea County, New Mexico be raised from 5 to 10 barrels per day as the result of recent well tests.

This well is in Humble's Langlie Mattix Water Flood Project as authorized in Order R-2556 of August 23, 1963.

Very truly yours,
HUMBLE OIL & REFINING CO.

R. R. Alworth
District Superintendent

By _____
E. S. Davis

DFL/efc

Hobbs, New Mexico
April 2, 1964

New Mexico Oil Conservation Commission
P. O. Box 1930
Hobbs, New Mexico

Gentlemen:

We request allowable for New Mexico State "M", Well No. 27, Langlie Mattix Pool, Unit "H", Section 30, T-22-S, R-37-E be raised from 9 to 19 barrels per day as the result of recent well test.

This well is in Humble's Langlie Mattix Water Flood Project as authorized in Order R-2556 of August 23, 1963.

Very truly yours,

HUMBLE OIL & REFINING CO.

R. R. Alworth
District Superintendent

DFL/afo

Hobbs, New Mexico
April 1, 1964

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico

Gentlemen:

We request allowable for New Mexico State "M", Well No. 39, Langlie Mattix Pool, Unit "J". Section 30, T-22-S, R-37-E be raised from 16 to 26 barrels per day as the result of recent well tests.

This well is in Humble's Langlie Mattix Water Flood Project as authorized in Order R-2556 of August 23, 1963.

Very truly yours,

HUMBLE OIL & REFINING CO.

R. R. Alworth
District Superintendent

DFL/afc

Hobbs, New Mexico
March 17, 1964

New Mexico Oil Conservation Commission
P. O. Box 1930
Hobbs, New Mexico

Gentlemen:

We request allowable for New Mexico State "MM", Well No. 39, Langlie Mattix Pool, Unit "J", Section 30, T-22-S, R-37-E be raised from 7 to 16 barrels per day as the result of recent well tests.

This well is in Humble's Langlie Mattix Water Flood Project as authorized in Order R-2556 of August 23, 1963.

Very truly yours,

HUMBLE OIL & REFINING CO.

R. R. Alworth
District Superintendent

DFL/afc

HUMBLE OIL & REFINING COMPANY

Hobbs, New Mexico
November 21, 1963

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico

Gentlemen:

The initial injection of water in Humble Oil & Refining Company's
Langlie-Mattix Water Flood Project began at 10:00 AM, Wednesday,
November 20, 1960.

Very truly yours,

HUMBLE OIL & REFINING COMPANY

R. R. Alworth
District Superintendent

DFL/acm

3219
FEB 16 1965
Request for Waterflood
Expansion Approval

HUMBLE OIL & REFINING COMPANY

Midland, Texas

FEB 16 1965

Request for Waterflood
Expansion Approval

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

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

Oil Conservation Commission Order No. R-2556 authorized Humble Oil and Refining Company to institute a waterflood project on the New Mexico State "M" Lease in Township 22 South, Range 37 East, NMPM, Lea County, New Mexico. Six wells, State M-23, 26, 28, 31, 37 and 38 were designated as injection wells.

This pilot flood has been in operation for fourteen months and good response in terms of improved oil production and reduced gas-oil ratios have been observed in all wells offset by two or more injection wells. None of the wells have suffered water breakthrough. The attached Commission Forms C-116 reflect the magnitude of the response between January and October of 1964. The State "M" Lease is offset to the east by the Ambassador Langlie Mattix Penrose Sand Unit and to the south by the proposed Skelly Penrose Unit "B". Expansion of the former Unit is in progress and it is understood that injection in the latter Unit is anticipated this year.

Based on performance of the pilot, waterflooding is indicated to be a feasible engineering and economic operation and therefore Humble desires to expand this flood to essentially all of the productive portion of the State "M" Lease. It is recognized that the northwestern extremity and southwestern tip of the proposed expansion have not responded sufficiently from this small pilot to comply with all specifics as set out in Rule 701. However, present day income to the State of New Mexico as well as Humble would be deferred approximately one year in order to meet all requirements without a hearing. Humble hereby requests the Commission to grant administrative approval to convert to injection the 13 wells listed on the attachment and also to use the new well listed for injection.

HUMBLE OIL & REFINING COMPANY

Page 2

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

The following attachments accompany this request in compliance with Statewide Rule 701.

1. Plat showing proposed injection wells and all other wells within two miles.
2. Logs of the proposed injection wells, except for one well not yet drilled.
3. Diagramatic sketch of a typical proposed injection well with a tabulation of required information on all proposed injection wells.
4. Tabulation of other pertinent information.
5. Evidence of sending copy of application to the State Engineer's office.
6. Commission reports showing production before and after flood response.

Your consideration of this request will be appreciated.

Very truly yours,

HUMBLE OIL & REFINING COMPANY

COPY ORIGINAL
SIGNED: R. R. MC CARTY
R. R. McCarty

RLB/mcb

Orig & 2 cc: Mr. A. L. Porter, Jr., Box 871, Santa Fe, New Mexico
W/Attachments
cc: N.M. State Engineer's Office, Box 1079, Santa Fe, N. M.
W/Attachments
cc: Mr. Joe Ramey, N.M.O.C.C., Box 1980, Hobbs, N. M.
W/Attachments
cc: Amerada Pet. Corp., Box 312, Midland, Texas
Gulf Oil Corp., Box 1938, Roswell, N. M.
Marathon Oil Co., Box 552, Midland, Texas
Ambassador Oil Corp., Box 9338, Fort Worth, Texas
Dalport Oil Corp., 930 Fidelity Union Life Bldg., Dallas, Texas
Texas Pacific Oil Co., 2700 Fidelity Union Twr., Dallas, Texas
Compass Exploration, Inc., 1645 Court Place, Denver 2, Colorado

"OTHER PERTINENT INFORMATION"

HUMBLE NEW MEXICO STATE "M" LEASE WATERFLOOD

FORMATION NAME	-	Queen
DEPTH	-	3700 Feet
KIND OF INJECTION FLUID	-	Nonpotable water
ANTICIPATED INJECTION VOLUMES	-	300 Barrels Per Well Per Day
SOURCE OF INJECTION FLUID	-	San Andres

NEW MEXICO
OIL CONSERVATION COMMISSION
MONTHLY INJECTION REPORT

3219
Form C-120
(Revised 5-1-60)

Submit this report in triplicate to the District Office, Oil Conservation Commission.

COMPANY NUMERO GIL & REFINING COMPANY POOL Langlie Mattix
COUNTY Lea MONTH October 1961

INJECTION WELLS

Lease	Well No.	Location				MCF Gas Injected	Cumulative Gas Inj.	Bbls Water Injected	Cumulative Water Inj.	Ave. Inj. Pressures
		UL	S	T	R					
N. M. State M	37	M	20	22	37	-	-	9450	97533	1221
"	23	G	29	22	37	-	-	9360	97385	1236
"	26	E	29	22	37	-	-	9419	97343	1252
"	28	I	30	22	37	-	-	9360	97619	1432
"	31	A	30	22	37	-	-	9769	97461.	1653
"	38	G	30	22	37	-	-	9477	97367	1647
TOTAL	6							56835	584708	

PRODUCING WELLS

Lease	Well No.	Location				Bbls. Oil Produced	MCF Gas Produced	Gor	Bbls Water Produced	% Water Produced
		UL	S	T	R					
N. M. State M	17	M	29	22	37	155	617	3981	39	20
"	18	K	29	22	37	124	716	5774	0	0
"	20	F	29	22	37	341	1111	3258	38	10
"	21	G	29	22	37	217	1382	6369	54	20
"	22	B	29	22	37	31	1012	32645	0	0
"	24	O	19	22	37	186	740	3978	46	20
"	25	L	29	22	37	682	706	1035	292	30
"	27	H	30	22	37	1085	474	437	121	10
"	30	P	19	22	37	310	846	2729	0	0
"	34	D	29	22	37	558	3199	5733	0	0
"	35	B	30	22	37	527	517	981	226	30
"	36	P	30	22	37	93	666	7161	23	20
"	39	J	30	22	37	575	289	503	0	0
"	41	O	30	22	37	310	586	1890	133	30
"	44	I	19	22	37	279	2999	10749	0	0
"	45	C	30	22	37	186	131	704	46	20
TOTAL	16					6550	15991		1018	210

PRODUCING WELLS OUTSIDE A PRORATED WATERFLOOD PROJECT AREA WHICH ARE PRODUCING INTO COMMON FACILITIES WITH WELLS INSIDE A PRORATED WATERFLOOD PROJECT AREA

Lease	Well No.	Location				Date of Test	Length of Test	Barrels Produced	Barrels Per Day
		UL	S	T	R				
N. M. State M	11	J	19	19	37				
"	14	H	31	22	37				
"	15	N	29	22	37				
"	16	J	29	22	37				
"	19	A	31	22	37				
"	29	N	19	22	37				
"	32	M	19	22	37				
"	33	K	19	22	37				
"	40	L	19	22	37				

I hereby certify that the above information is true and complete to the best of my knowledge.

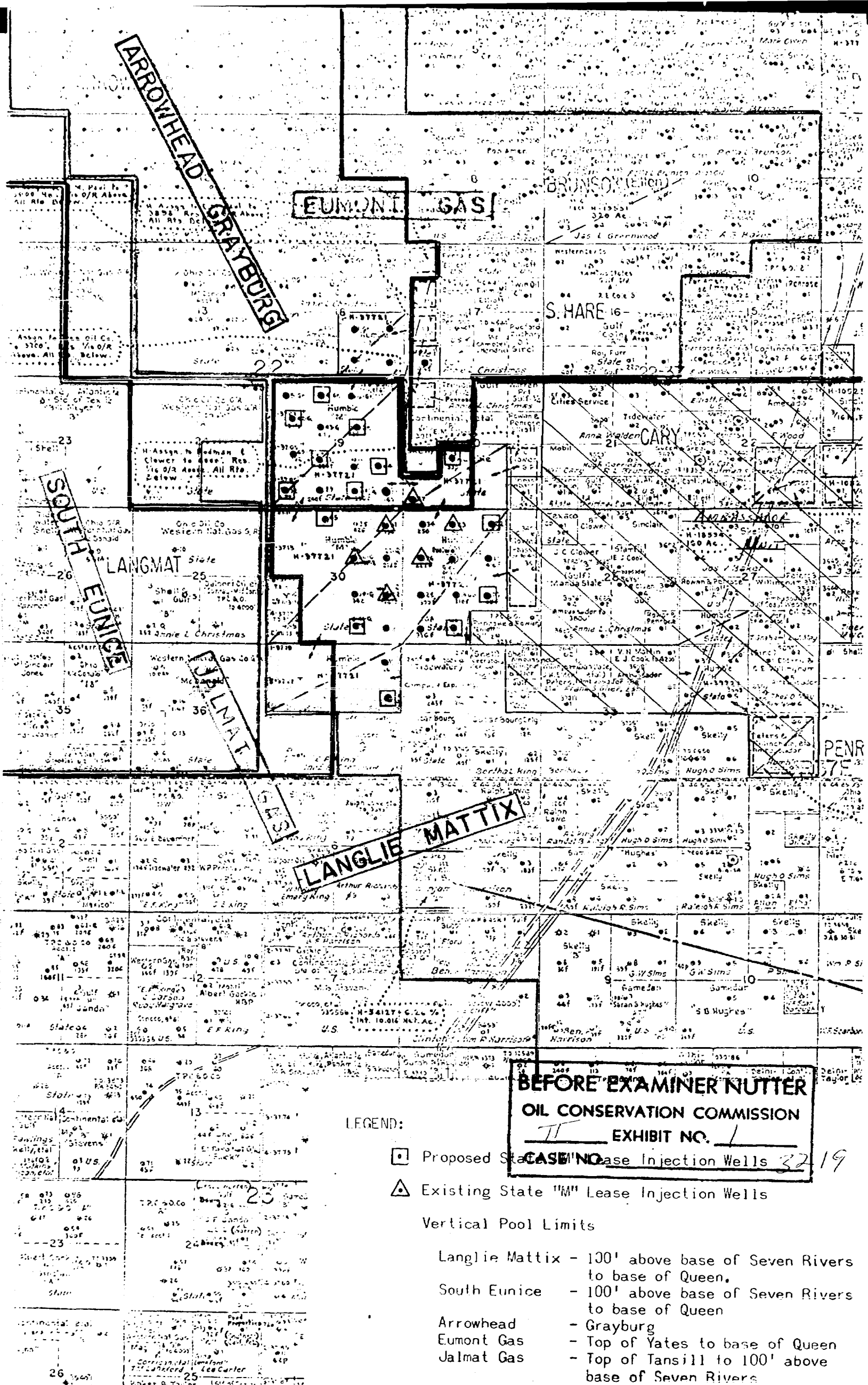
REMARKS: _____ NAME E. L. Lamm

TITLE Agent

WELL NO.	UNIT		SECTION
4	C	660 feet from the North line, 1980 feet from the West line	19
24	O	660 feet from the South line, 1980 feet from the East line	19
32	M	660 feet from the South line, 660 feet from the West line	19
33	K	1980 feet from the South line, 1880 feet from the West line	19
42	E	892 feet from the West line, 1650 feet from the North line	19
44	I	1650 feet from the South line, 990 feet from the East line	19
46*	G	1880 feet from the North line, 1880 feet from the East line	19
13	K	1980 feet from the South line, 1980 feet from the West line	20
15	N	660 feet from the South line, 1980 feet from the West line	29
16	J	1980 feet from the South line, 1980 feet from the East line	29
22	B	660 feet from the North line, 1980 feet from the East line	29
45	C	2219 feet from the West line, 330 feet from the North line	30
14	H	1980 feet from the North line, 660 feet from the East line	31

*New Well

See Under



NEW MEXICO
OIL CONSERVATION COMMISSION
MONTHLY INJECTION REPORT

Form C-120
(Revised 5-1-60)

Submit this report in triplicate to the District Office, Oil Conservation Commission.

COMPANY HUMPHREY OIL & REFINING COMPANY POOL Lanclie Mattix
COUNTY Lea MONTH January 19 64

INJECTION WELLS

Page	Well No.	Location				MCF Gas Injected	Cumulative Gas Inj.	Bbls Water Injected	Cumulative Water Inj.	Ave. Inj. Pressures
		UL	S	T	R					
i. N. State M	37	M	29	22	37	-	-	9682	17981	420
"	23	C	29	22	37	-	-	9581	18669	767
"	26	E	29	22	37	-	-	9733	19054	369
"	28	I	30	22	37	-	-	9034	16325	990
"	31	A	30	22	37	-	-	8902	17088	957
"	38	G	30	22	37	-	-	8773	17557	791
TOTAL	6							55705	106674	4294

PRODUCING WELLS

Page	Well No.	Location				Bbls. Oil Produced	MCF Gas Produced	Gor	Bbls Water Produced	% Water Produced
		UL	S	T	R					
i. N. State M	17	M	29	22	37	225	1340	5956	96	30
"	18	K	29	22	37	98	579	5908	0	0
"	20	F	29	22	37	141	828	5872	16	10
"	21	G	29	22	37	253	1938	7660	108	30
"	22	B	29	22	37	56	1552	27714	0	0
"	24	C	19	22	37	280	1150	4107	70	20
"	25	L	29	22	37	127	978	7701	54	30
"	27	H	30	22	37	309	1128	3650	77	20
"	30	P	19	22	37	196	1064	5429	49	20
"	34	D	29	22	37	126	1113	8833	0	0
"	35	B	30	22	37	197	494	2508	49	20
"	36	P	30	22	37	196	1543	7872	84	30
"	39	J	30	22	37	197	544	2761	84	30
"	41	O	30	22	37	337	796	2362	144	30
"	44	I	19	22	37	281	5069	18039	15	5
"	45	C	30	22	37	159	187	1176	40	20
TOTAL	16					3178	20303		886	295

PRODUCING WELLS OUTSIDE A PRORATED WATERFLOOD PROJECT AREA WHICH ARE PRODUCING INTO COMMON FACILITIES WITH WELLS INSIDE A PRORATED WATERFLOOD PROJECT AREA

Lease	Well No.	Location				Date of Test	Length of Test	Barrels Produced	Barrels Per Day
		UL	S	T	R				
N. M. State M	11	J	19	19	37				
"	14	H	31	22	37				
"	15	N	29	22	37				
"	16	J	29	22	37				
"	19	A	31	22	37				
"	29	N	19	22	37				
"	32	M	19	22	37				
"	33	K	19	22	37				
"	40	L	19	22	37				

I hereby certify that the above information is true and complete to the best of my knowledge.

WORKS:

NAME

COPY ORIGINAL SIGNED: E. S. DAVIS

NEW MEXICO
OIL CONSERVATION COMMISSION
MONTHLY INJECTION REPORT

Form C-120
(Revised 5-1-60)

Submit this report in triplicate to the District Office, Oil Conservation Commission.

COMPANY HUMBLE OIL & REFINING COMPANY POOL Langlie Hattix
COUNTY Lea MONTH January 1955

INJECTION WELLS

Lease	Well No.	Location				MCF Gas Injected	Cumulative Gas Inj.	Bbls Water Injected	Cumulative Water Inj.	Ave. Inj. Pressures
		UL	S	T	R					
N. M. State M	37	M	20	22	37	-	-	7634	123538	1248
"	23	G	29	22	37	-	-	7089	122665	1248
"	26	E	29	22	37	-	-	6915	122680	1294
"	28	I	30	22	37	-	-	7022	122986	1463
"	31	A	30	22	37	-	-	7164	122743	1349
"	38	G	30	22	37	-	-	7750	123659	1653
TOTAL	6							43574	738271	8255

PRODUCING WELLS

Lease	Well No.	Location				Bbls. Oil Produced	MCF Gas Produced	Gor	Bbls Water Produced	% Water Produced
		UL	S	T	R					
N. M. State M	17	H	29	22	37	133	496	3,729	30	30
"	18	K	29	22	37	106	1233	11,632	0	0
"	20	F	29	22	37	265	283	1,068	160	40
"	21	G	29	22	37	159	1468	9,233	80	40
"	22	B	29	22	37	26	277	10,654	0	0
"	24	O	19	22	37	159	571	3,591	20	20
"	25	L	29	22	37	583	19	33	360	40
"	27	H	30	22	37	868	216	249	90	10
"	30	P	19	22	37	265	333	1,257	90	30
"	34	D	29	22	37	477	79	166	280	40
"	35	B	30	22	37	583	274	470	360	40
"	36	P	30	22	37	80	356	4,450	20	20
"	39	J	30	22	37	462	100	217	280	40
"	41	C	30	22	37	212	6758	31,877	1890	90
"	44	I	19	22	37	149	1958	13,141	20	20
"	45	C	30	22	37	109	132	1,211	30	30
TOTAL	16					4636	14553		3710	

PRODUCING WELLS OUTSIDE A PRORATED WATERFLOOD PROJECT AREA WHICH ARE PRODUCING INTO COMMON FACILITIES WITH WELLS INSIDE A PRORATED WATERFLOOD PROJECT AREA

Lease	Well No.	Location				Date of Test	Length of Test	Barrels Produced	Barrels Per Day
		UL	S	T	R				
N. M. State M	11	J	19	19	37				
"	14	H	31	22	37				
"	15	N	29	22	37				
"	16	J	29	22	37				
"	19	A	31	22	37				
"	29	N	19	22	37				
"	32	H	19	22	37				
"	33	K	19	22	37				
"	40	L	19	22	37				

I hereby certify that the above information is true and complete to the best of my knowledge.

REMARKS: _____ NAME _____
TITLE Agent

**NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS**

C-116
Revised 1-1-65

Operator Humble Oil & Refining Company		Pool Langlie Mattix				County Lea											
Address Box 2100, Hobbs, New Mexico						TYPE OF TEST - (X) <input checked="" type="checkbox"/> Scheduled <input type="checkbox"/> Completion <input type="checkbox"/> Special <input checked="" type="checkbox"/>											
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	STATUS	CHOKE SIZE	T.B.G. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS - OIL RATIO CU. FT./BBL.	
		U	S	T	R							WATER BBL'S.	GRAV. OIL	OIL BBL'S.	GAS M.C.F.		
N. M. State M	20	F	29	22	37	1-1-64	P	-	-	5	24	1	-	7	40	5,714	
						1-5-65	P	-	-	10	24	17	-	25	31	1,240	
N. M. State M	25	L	29	22	37	1-4-64	P	-	-	5	24	1	-	4	30	7,500	
						1-2-65	P	-	-	22	24	18	-	26	1	38	
N. M. State M	27	H	30	22	37	1-5-64	P	-	-	11	24	2	-	9	32	3,556	
						12-13-64	P	-	-	35	24	5	-	41	13	317	
N. M. State M	30	P	19	22	37	1-6-64	P	-	-	7	24	2	-	7	37	5,286	
						12-10-64	P	-	-	10	24	4	-	14	19	1,357	
N. M. State M	34	D	29	22	37	1-21-64	P	-	-	7	24	0	-	9	53	5,889	
						12-12-64	P	-	-	18	24	21	-	30	2	67	
N. M. State M	35	B	30	22	37	1-7-64	P	-	-	7	24	2	-	9	22	2,444	
						1-3-65	P	-	-	17	24	14	-	22	12	545	
N. M. State M	39	J	30	22	37	2-14-64	P	-	-	7	24	7	-	16	33	2,063	
						1-4-65	P	-	-	18	24	16	-	24	6	250	

Note: Forms C-116 are not submitted on the above wells which are in the current waterflood area. Forms C-120 are submitted for these wells. The above tests are representative of response obtained from the pilot waterflood and along with many additional tests are on file in the Humble Hobbs District Office.

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

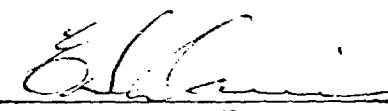
Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 3219

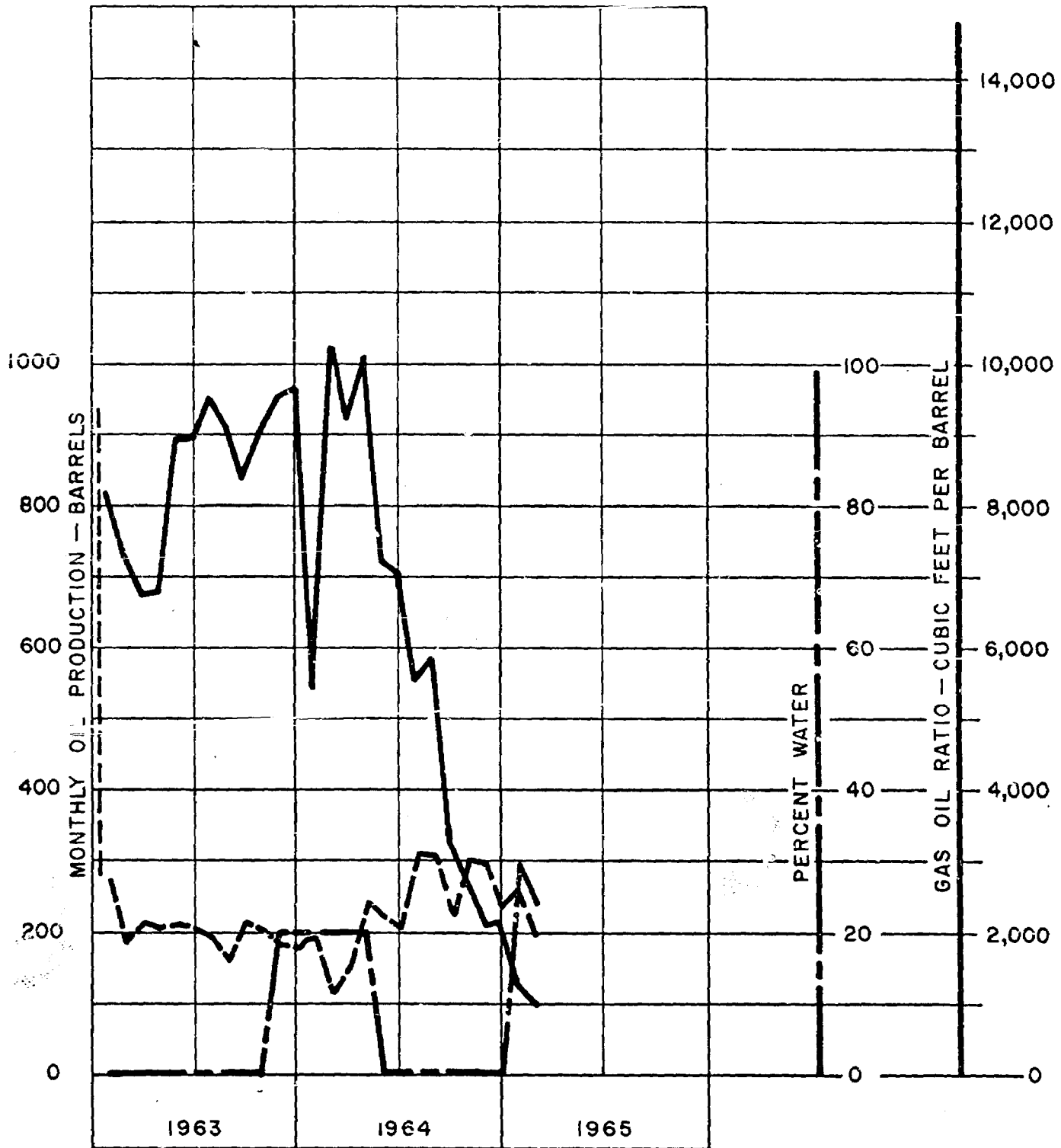
I hereby certify that the above information is true and complete to the best of my knowledge and belief.



District Superintendent
(Title)

2-12-65
RLB/mcb

NEW MEXICO STATE "M"-30



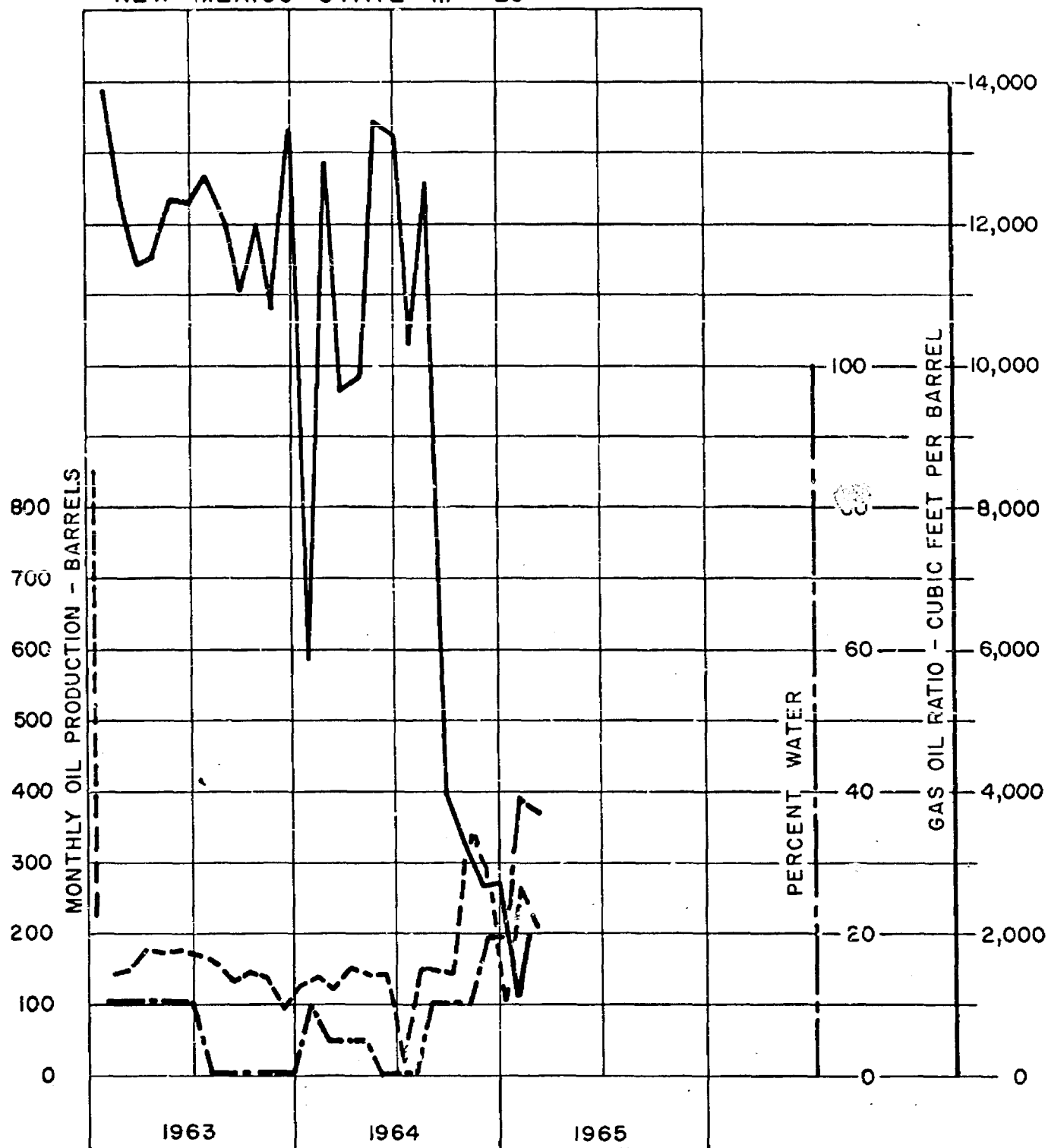
BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

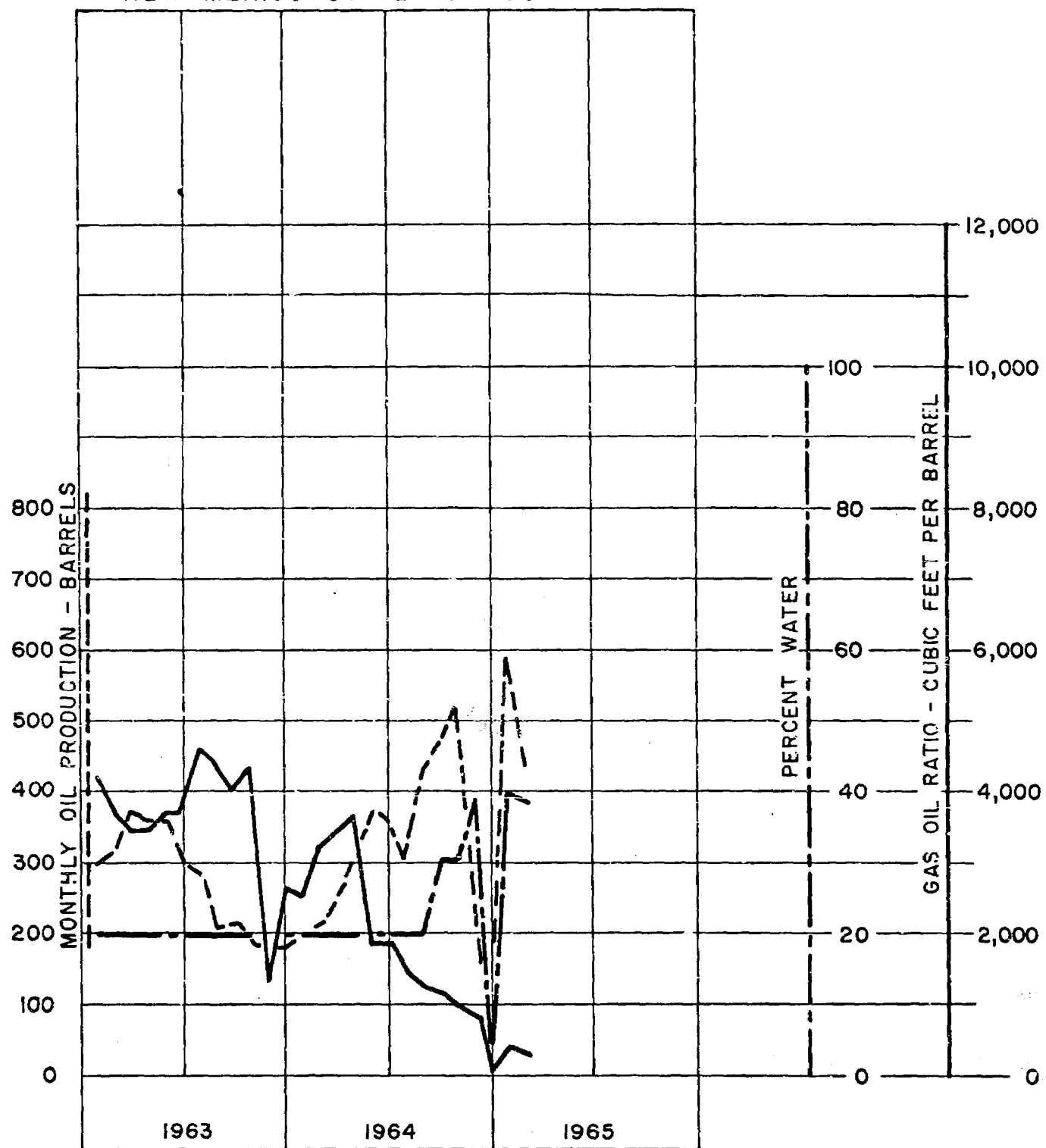
EXHIBIT NO. 4

CASE NO. 3214

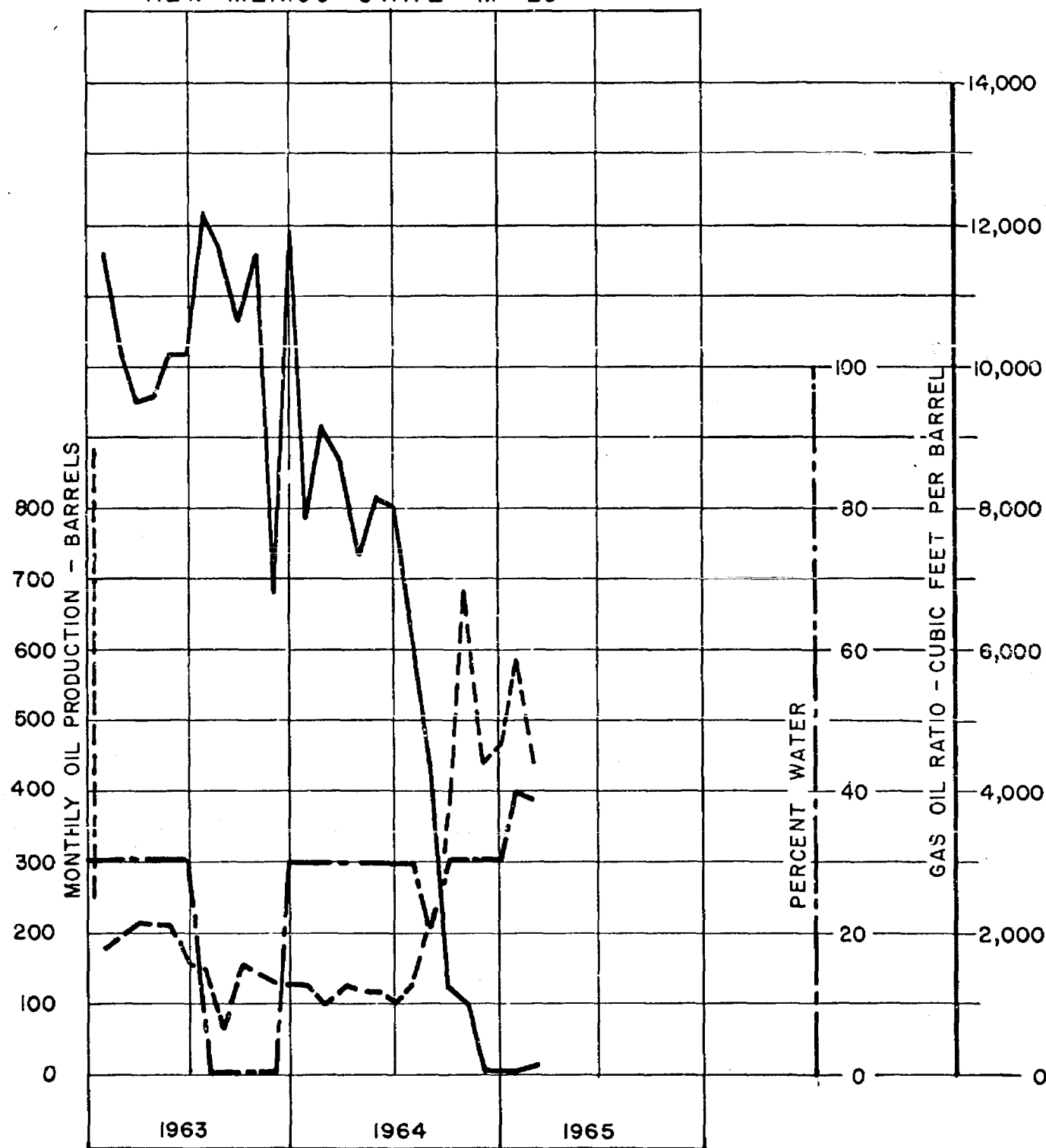
NEW MEXICO STATE "M" - 20



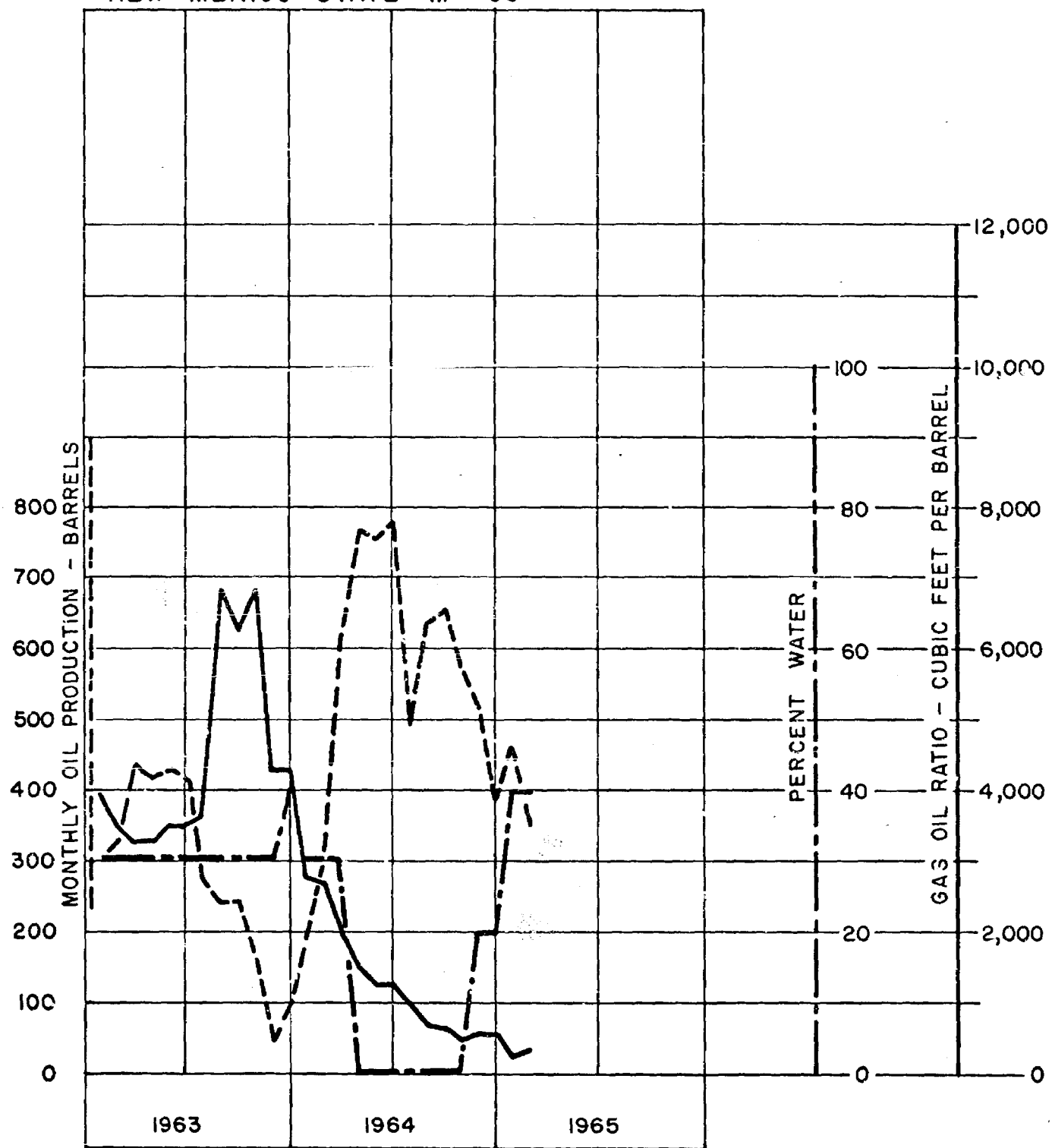
NEW MEXICO STATE "M"-35



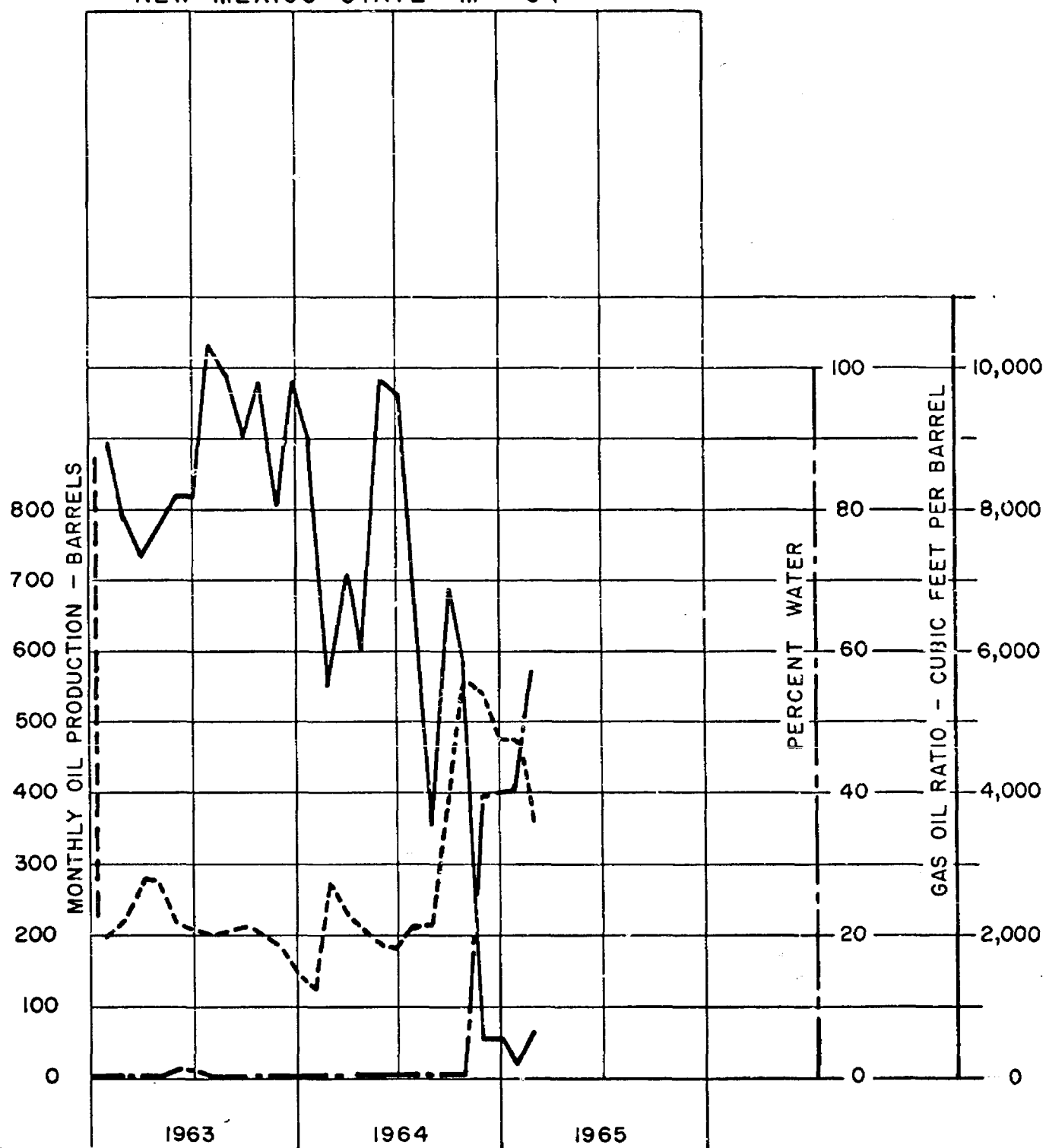
NEW MEXICO STATE "M"-25



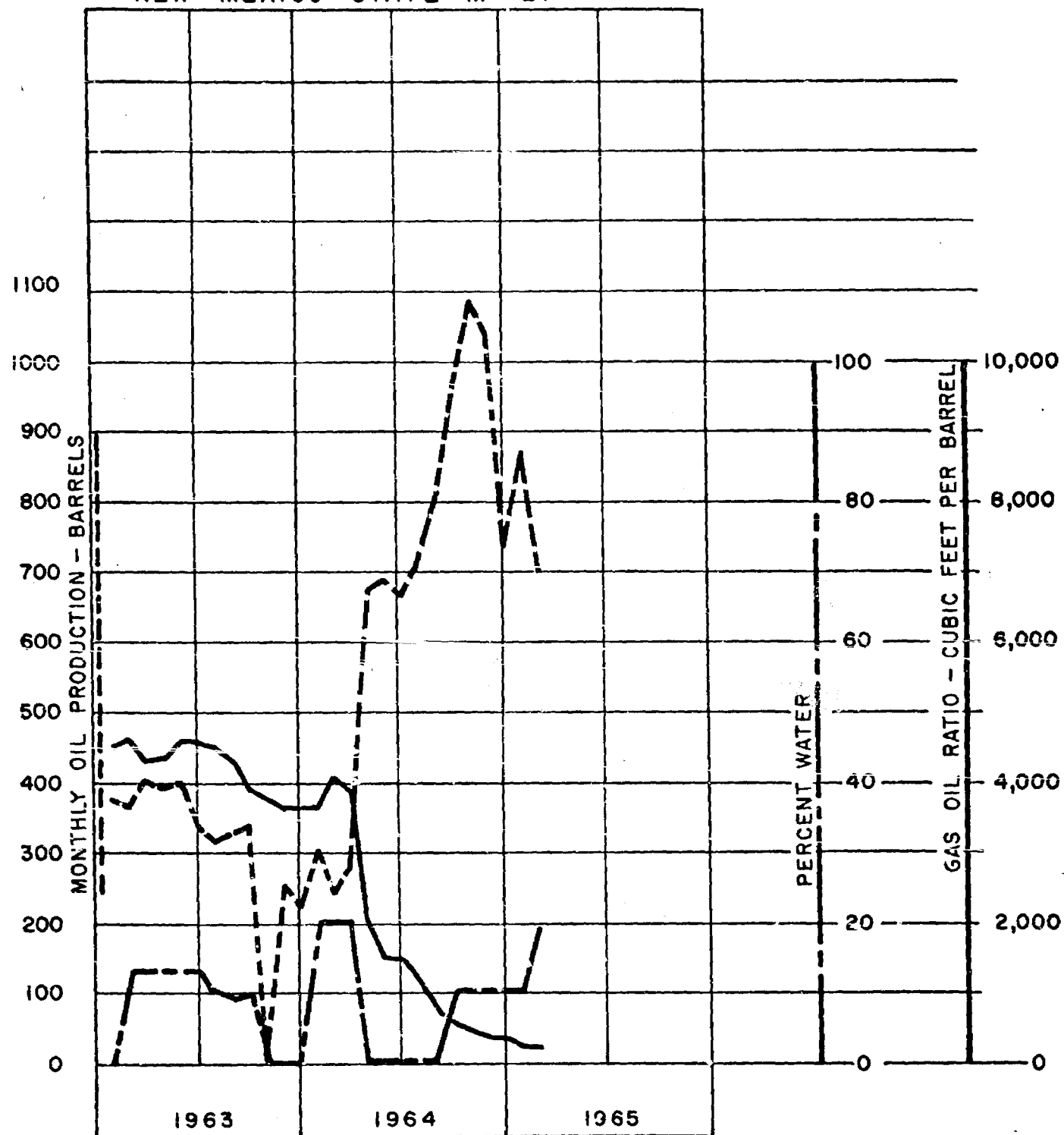
NEW MEXICO STATE "M" - 39



NEW MEXICO STATE "M" - 34



NEW MEXICO STATE "M"-27



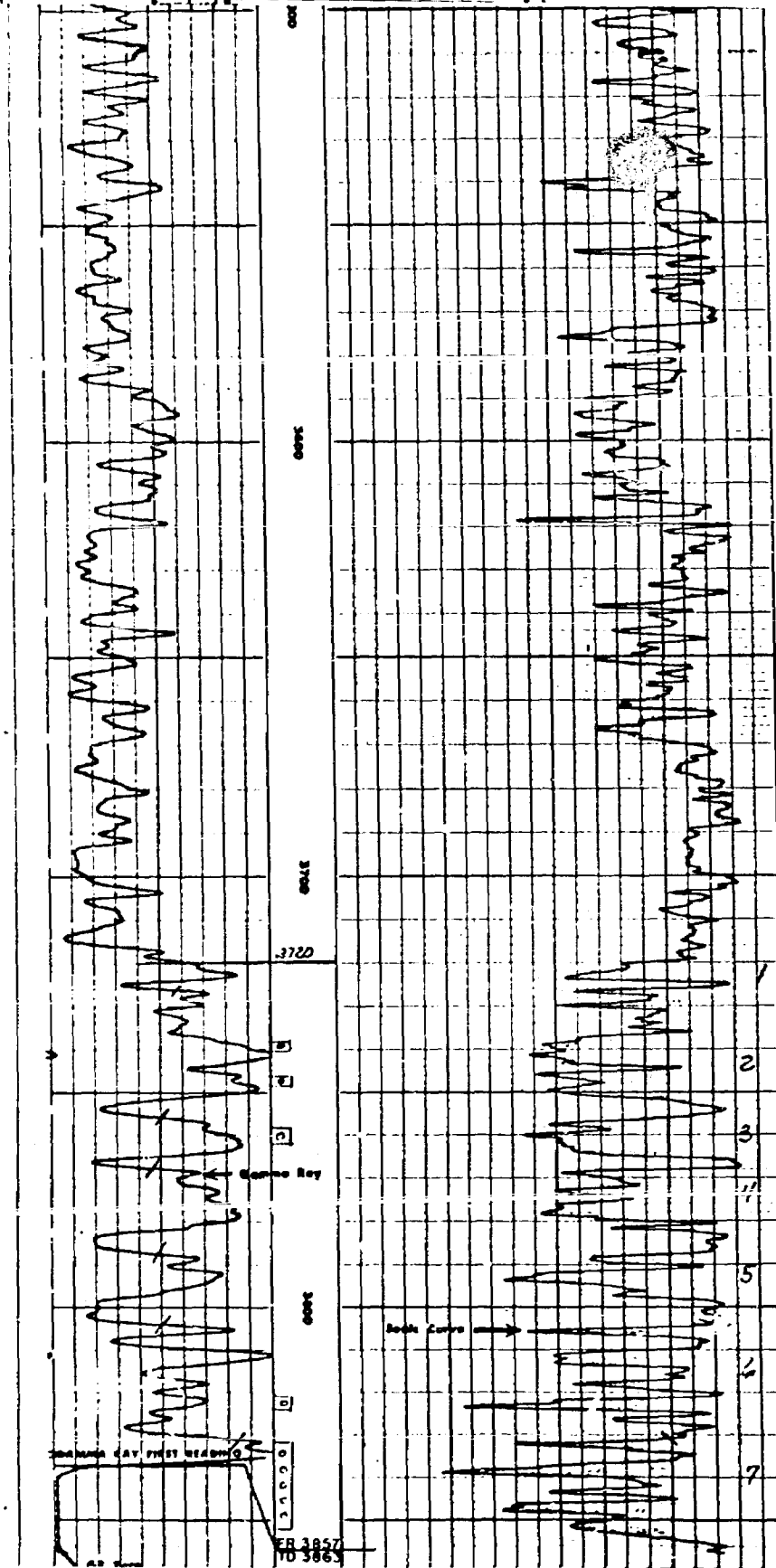
SCHUMBERGER WELL SURVEYING CORPORATION

SCHUMBERGER *1900*

COUNTY FIELD LOCATION WELL COMPANY	COMPANY	WELL	Other Surveys
	NEW MEXICO STATE	NEW MEXICO STATE	Location of Well
	M 32	NEUT. FROM S/L	NEUT. FROM W/L
	FIELD	CANFIELD MATTER	
	LOCATION	NEUT. FROM S/L	
	COUNTY	STATE	Elevation H.B.
	NEW MEXICO	NEW MEXICO	D.F. 1512
			G.L. 1524

Log Depths Measured From RB 10 Ft. above 2" CSG HD. FEG.

RUN No.	ONE
Date	2-27-61
First Reading	1557
Last Reading	0
Feet Measured	1557
Cig. Driller	510
Depth Reached	1563
Bottom Driller	3863
Mud Ntr.	SALT GEL
Dens. Visc.	10.4 @ 38
Mud Resist.	.052 @ 56
Rev. BHT	.030 @ 32
CC 30	0
CC 50	0
Bit Size	10 3/8
Spacing	10 3/8
Op. Time	2:00
Truck No.	2024 HOBBS
Recorded By	WILFRED
Witness	WILFRED



BEFORE EXAMINER NUTTER

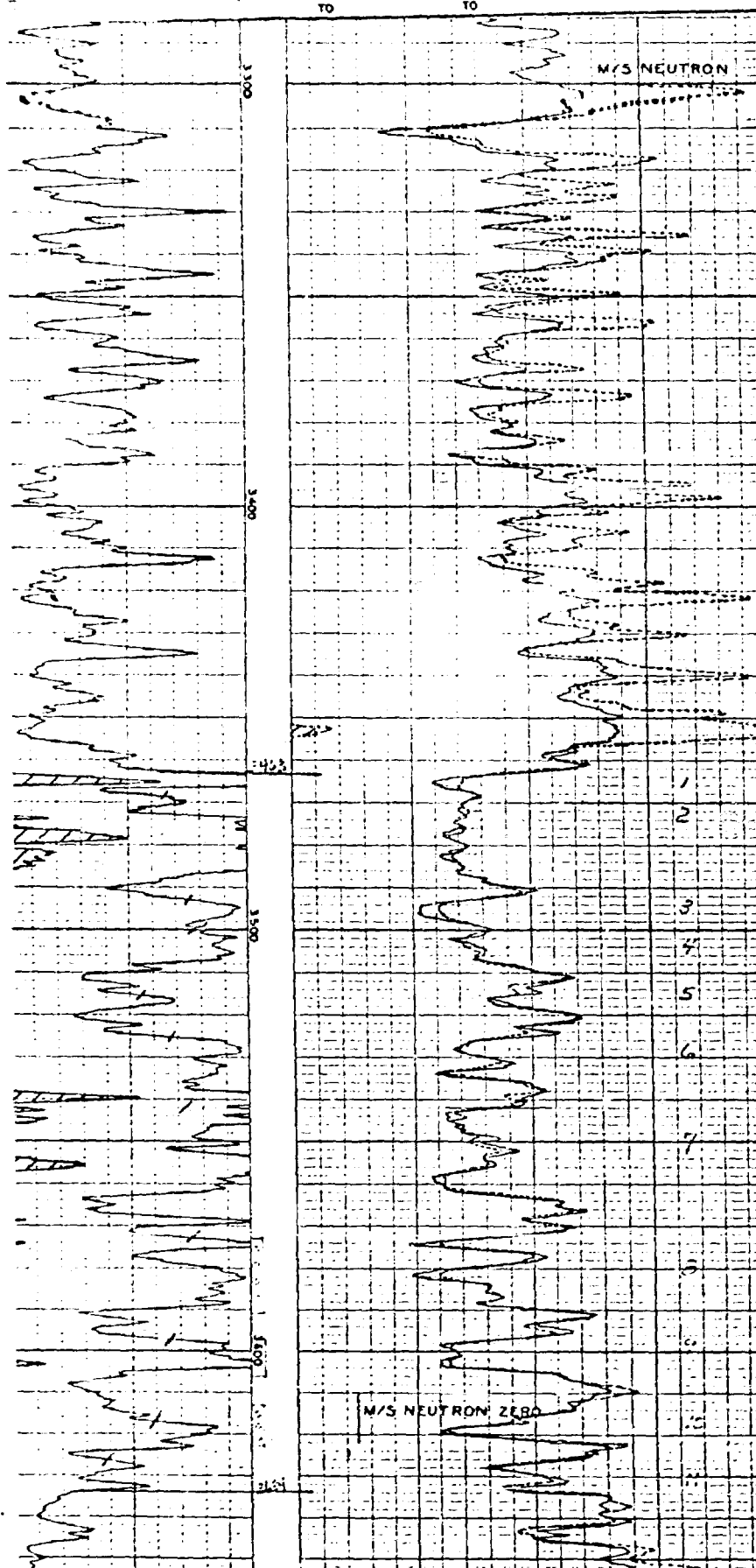
OIL CONSERVATION COMMISSION

EXHIBIT NO. 5

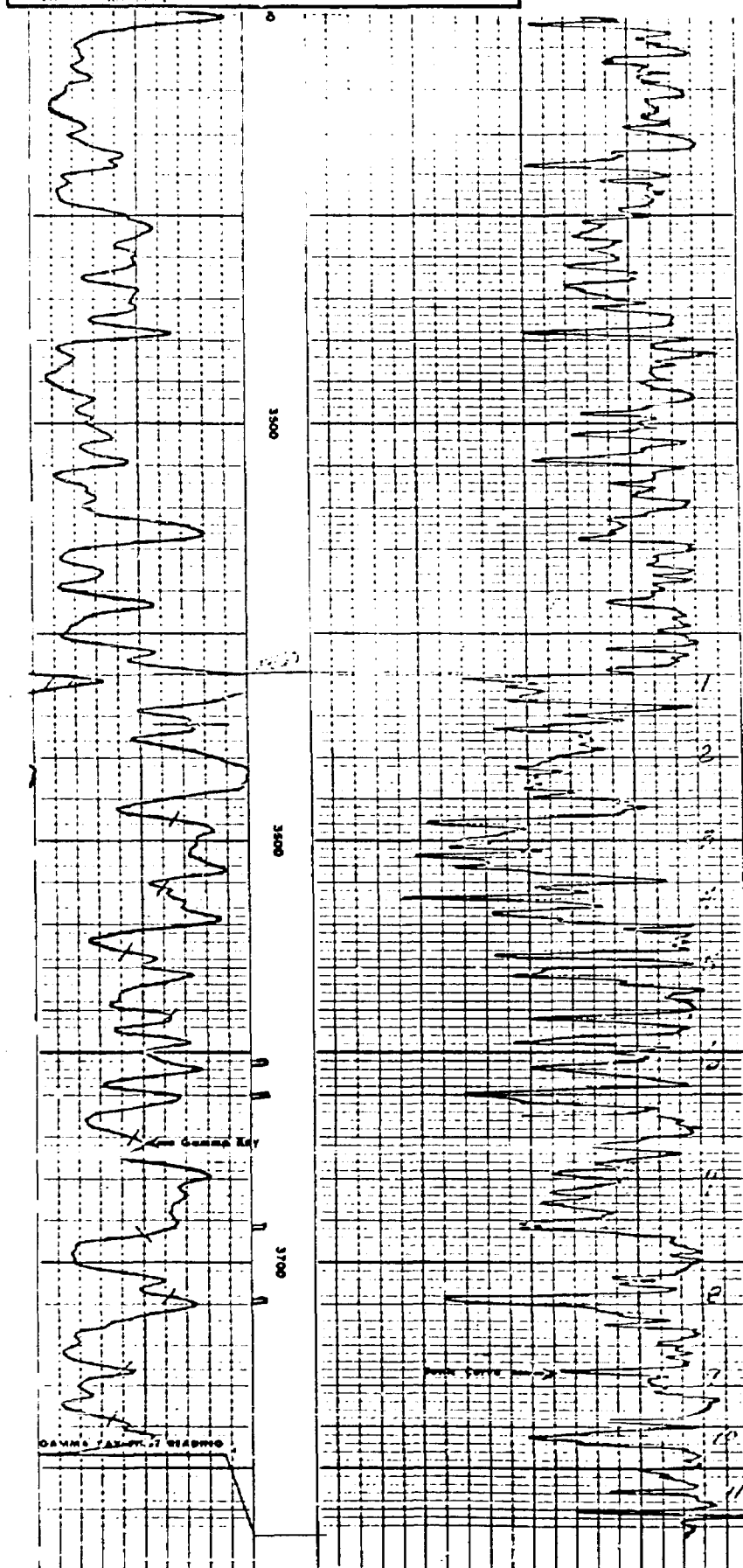
CASE NO. 3219

Log

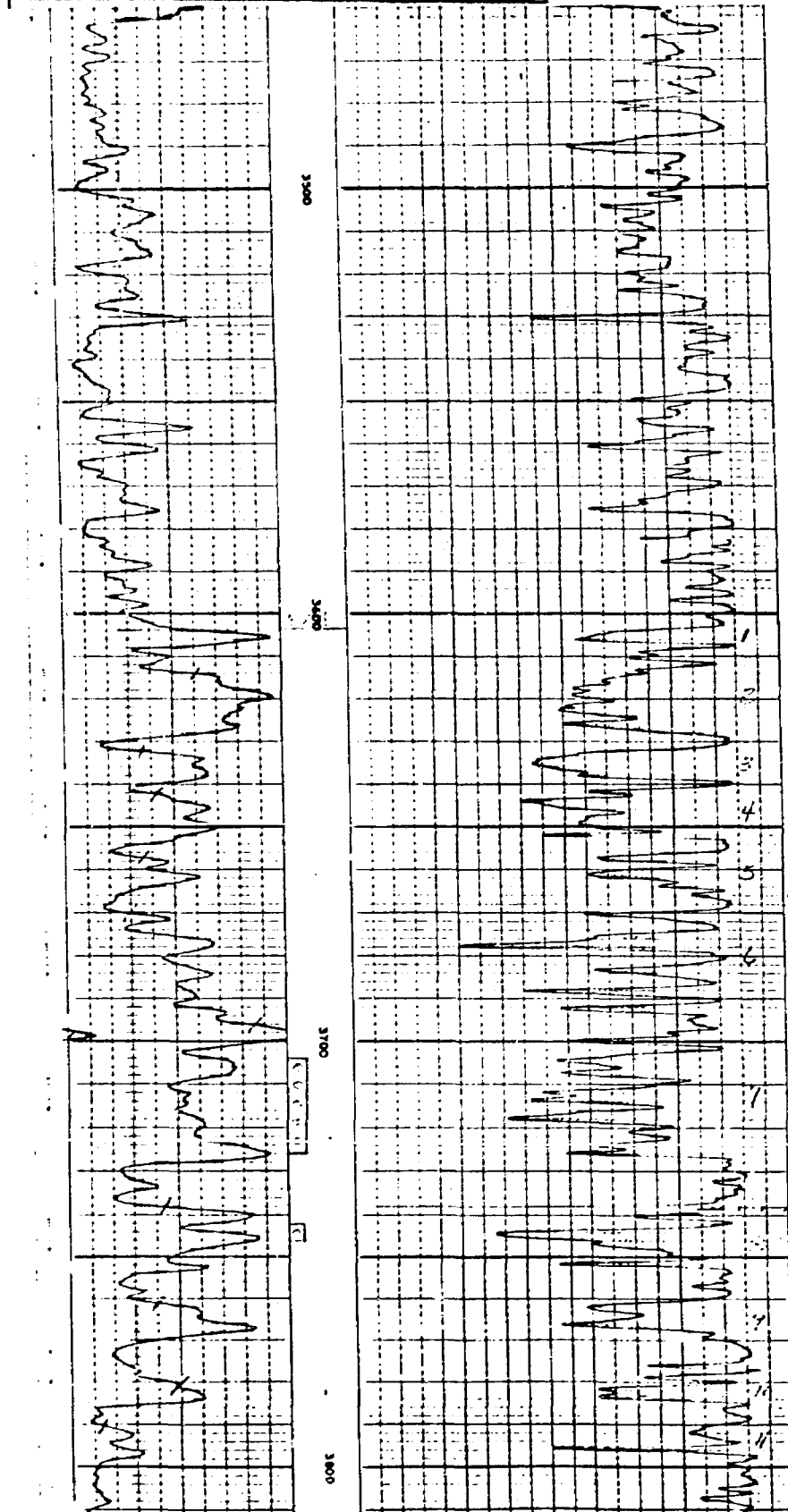
WELL RECORD				FROM LOG			
RUN	BIT SIZE	CASING	WT. - LB.	FROM WELL RECORD		FROM LOG	
ONE	10 3/4	8 5/8		SURFACE	TO 115	SURFACE	TO 113
	7 7/8			115	TO 113	113	TO 1068
				TO	TO	TO	TO
				TO	TO	TO	TO



COMPANY		Other Surveys	
WELL		Location of Well	
FIELD		Elevation N.B.	
LOCATION		or G.I.	
COUNTY	STATE	Elevation N.B.	
STATE		or G.I.	
Log Depth Measured from			
Date			
First Reading			
Last Reading			
Test Measured			
Cyl. Medium			
Cyl. Driller			
Depth Reached			
Bottom Driller			
Mud No.			
Dens. Visc.			
Mud Resist.			
pH			
Wet Loss			
Rt. Size			
Springs			
Opr. P.A. Time			
Truck No.			
Recorded By			
Witness			



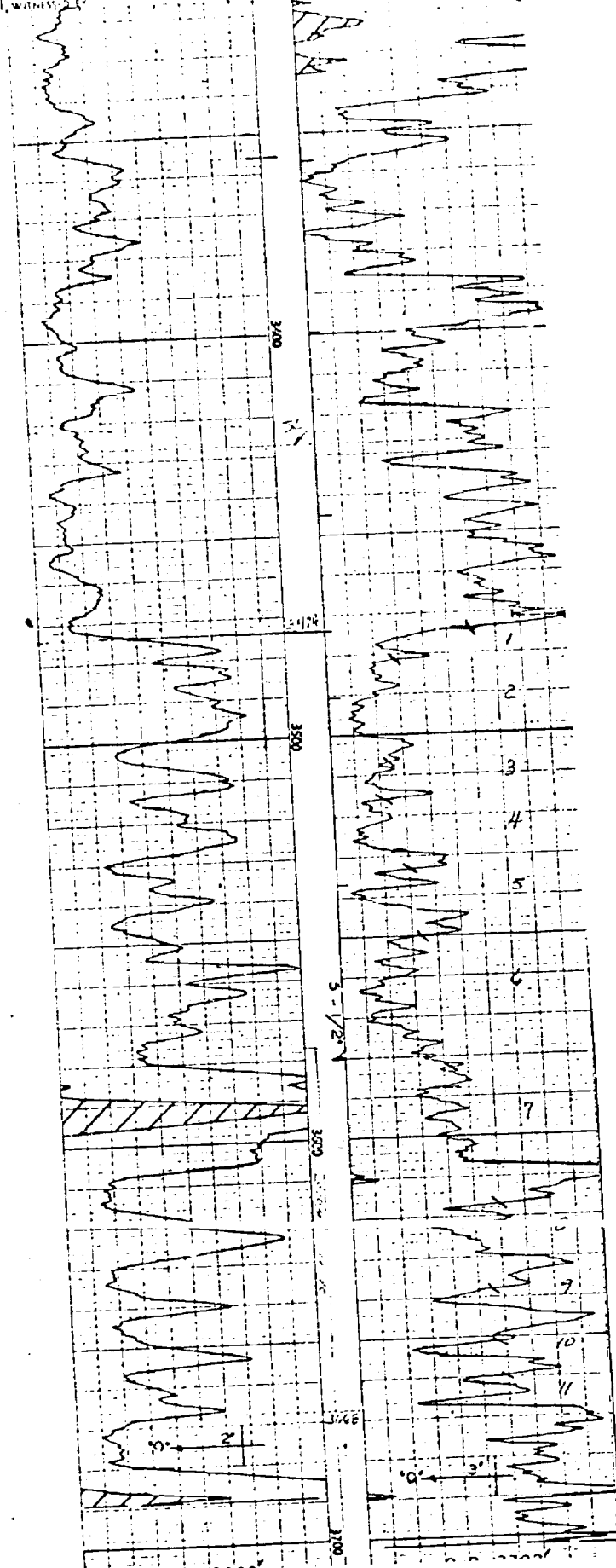
SCHLUMBERGER WELL SURVEYING CORPORATION			
COMPANY WELL FIELD LOCATION COUNTY STATE	REFERENCE NO. 24	Other Surveys Location of Well	
	DATE 12-12-12	Elevation N.B. 2422 G.C. 3424 or G.C. 3415	
	COUNTY NEW YORK	Elevation N.B. 2422 G.C. 3424 or G.C. 3415	
	STATE NEW YORK	Elevation N.B. 2422 G.C. 3424 or G.C. 3415	
Log Depths Measured From: 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.			



LANE RADIOACTIVITY LOG WELLS
COMPANY

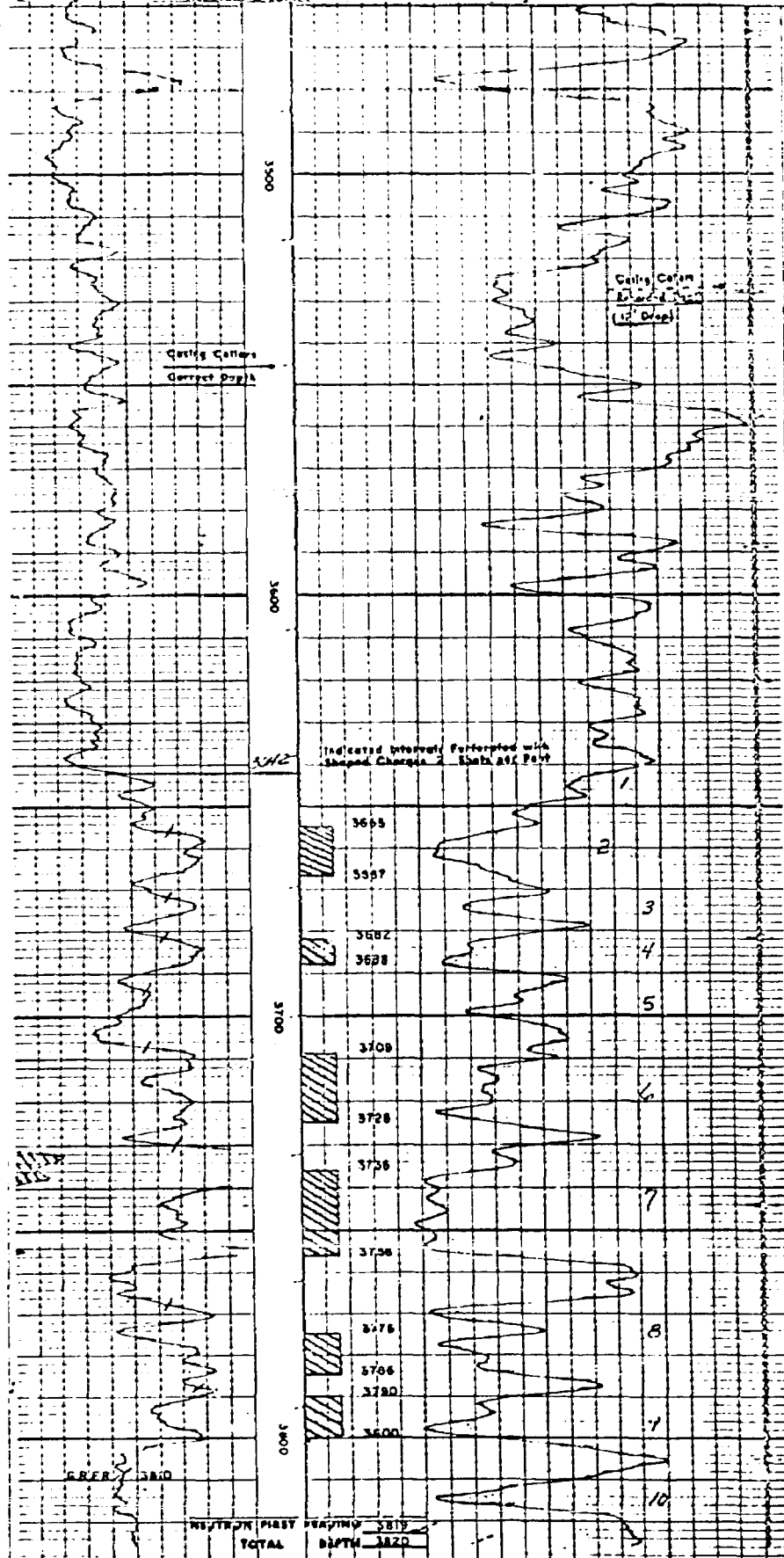
COMPANY:	PRINCE OIL & FERT. CO.	ADDRESS:	1000 WEST 1ST ST. & STATE B.M.
NAME:	NEW MEXICO STATE	ADDRESS:	1000 WEST 1ST ST. & STATE B.M.
CITY:	ALBUQUERQUE	ADDRESS:	1000 WEST 1ST ST. & STATE B.M.
COUNTY:	BREA	ADDRESS:	1000 WEST 1ST ST. & STATE B.M.
LOCATION:	NEW MEX. 1000 WEST 1ST ST.	ADDRESS:	1000 WEST 1ST ST. & STATE B.M.
REMARKS:	REMARKS	ADDRESS:	1000 WEST 1ST ST. & STATE B.M.
DATE:	DATE	ADDRESS:	1000 WEST 1ST ST. & STATE B.M.
TIME:	TIME	ADDRESS:	1000 WEST 1ST ST. & STATE B.M.

TIME OF LOG	GAMMA RATE	NO. TUBS
GRIND	1 0/W	1 0/W
DATE	4-15-54	4-15-54
WELL DEPTH (FEET)	3714	3714
DEPTH OF DEPTH (FEET)	3714	3714
TOP OF LOGGED INTERVAL	6" PACK	6" PACK
BOTTOM OF LOGGED INTERVAL	3649	3702
TYPE OF LOG IN HOLE	OIL	WATER
FLUID LEVEL	810	810
MAXIMUM RECORDED TEMP.		400°K
NEUTRON SOURCE STRENGTH & TYPE		425
SOURCE SPACING - IN.	36	9
LENGTH OF MEASURING DEVICE - IN.	3-5/8	3-5/8
OD OF INSTRUMENT - IN.	5	5
TIME CONSTANT - SECONDS	25	25
LOGGING SPEED FT. MIN.		
STATISTICAL VARIATION - IN.	274	275
SENSITIVITY REFERENCE	KELLY	KELLY
RECORDED BY	JAMES	JAMES
WITNESS - 2		



COMPANY	NEW MEXICO STATE	Other Surveys
WELL	NEW MEXICO STATE	Location of Well
FIELD	ELMONT	SECTION 17/1
LOCATION	SEC. 31-22-17E	SECTION 17/1
COUNTY	ELA	Elevation D.F. 17/1
STATE	NEW MEXICO	W. 17/1

Log Depth Measured From	At	3	ft. above UH
RUN NO	1		
Date	05/17/59		
First Reading	1519		
Last Reading	1600		
Interval Measured	0115		
Wire (Depth Reached)	3520		
Bottom (Feet)	1822		
Maximum Temp. °F.			
Fluid Nature	OIL		
Fluid Level	252		
Casing Size	7 5/8 in.	to 304	in.
Casing Weight	15 lb.	to 3850	in.
Casing Size	2 7/8 in.	to 10	in.
Casing Weight	6 3/4 lb.	to 10	in.
Bit Size	in.	to 10	in.
Bit Size	in.	to 10	in.
No. Counters Used	1		
Type Equipment	1 11/16 GWT-2		
Type Panel	GNP-C		
Op. Rig Time	7 HOURS		
Truck No.	2525-10065		
Observer	MAISON		
Witness	WILLIAM A. MAISON		

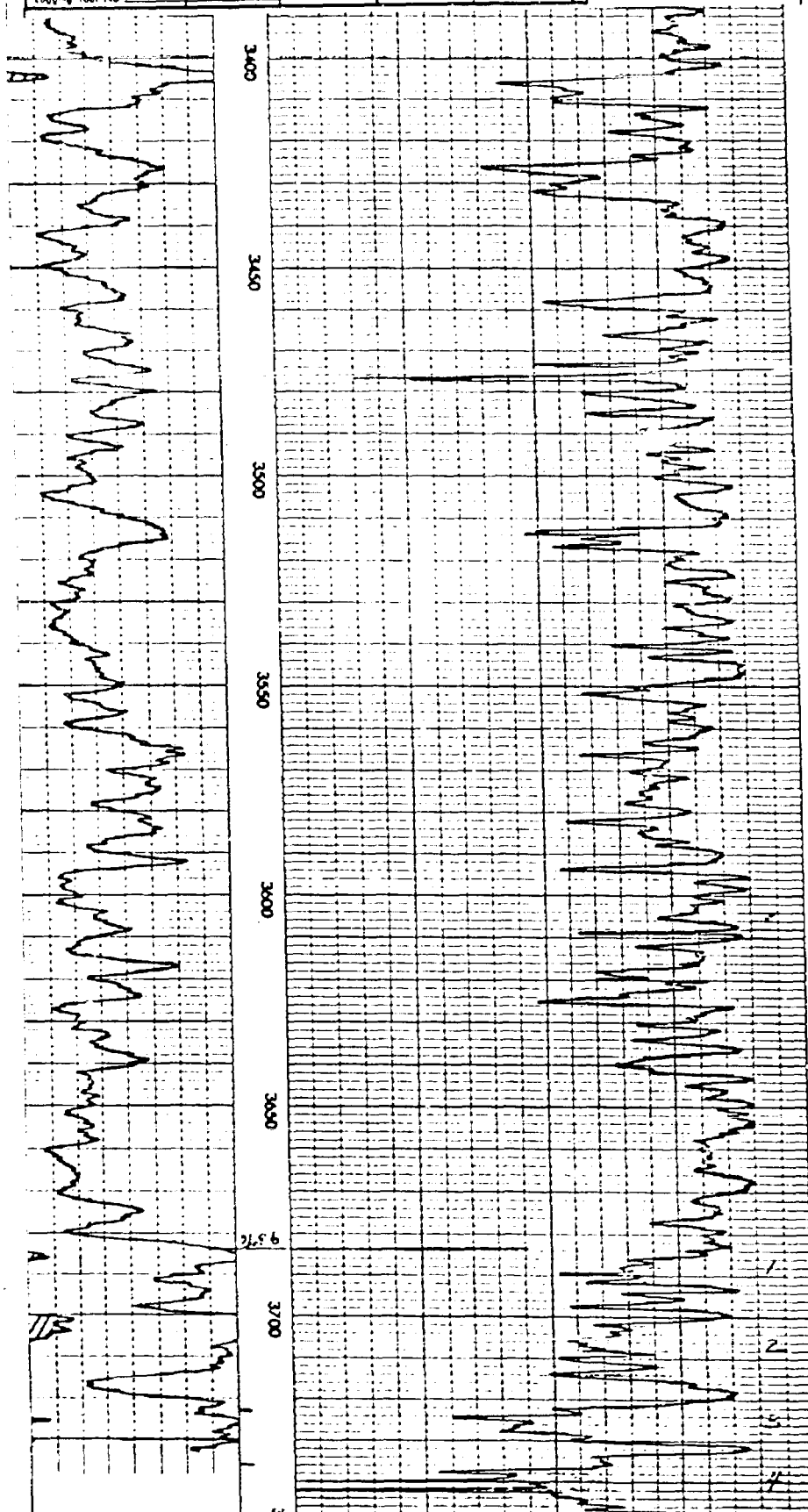


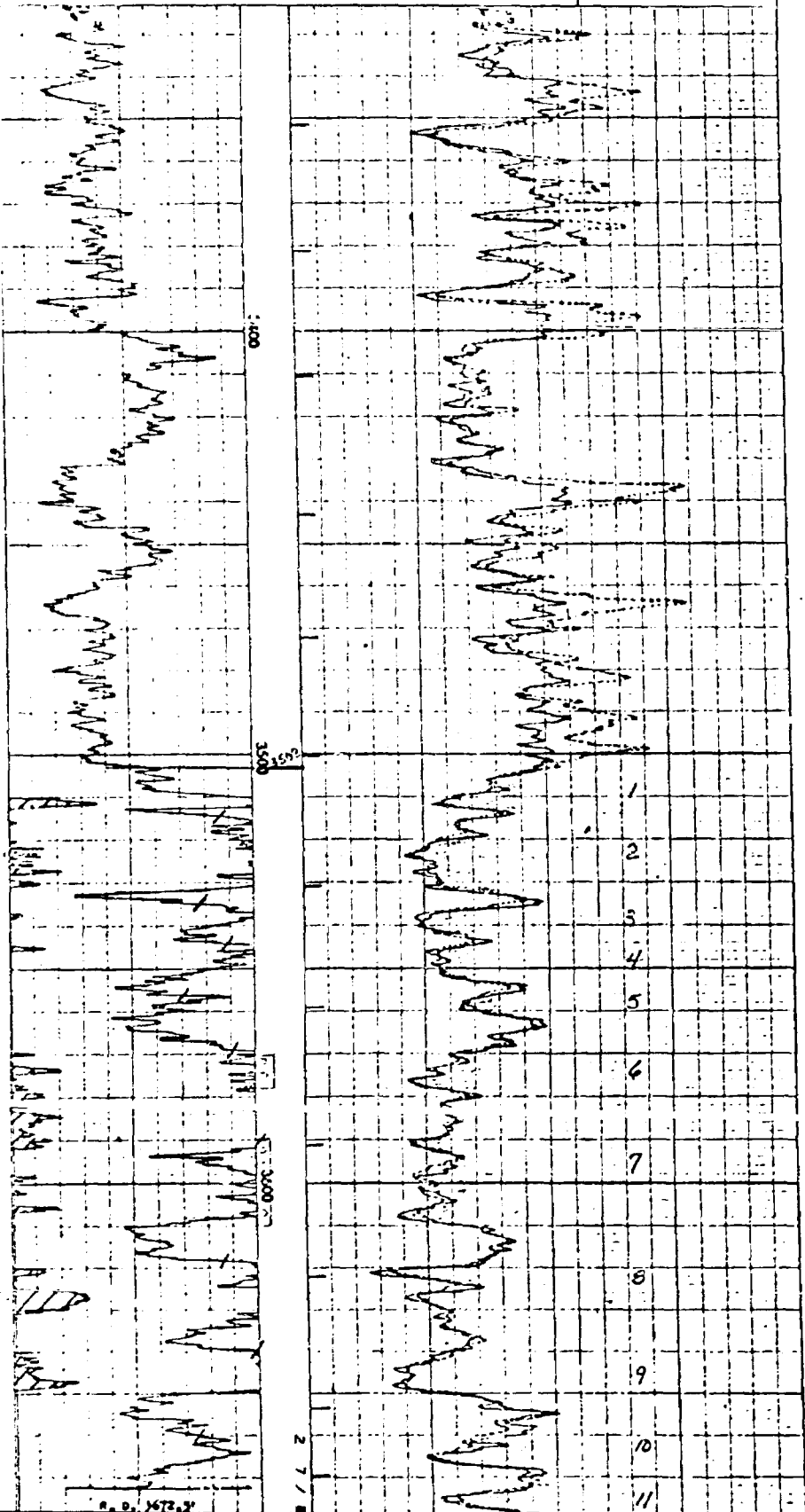
WELEX



AMERICAN PETROLEUM INSTITUTE

COMPANY AMERICAN OIL & REFINING COMPANY	
WELL NEW MEXICO STATE # 15	
FIELD LARGO-DAVIES	
COUNTY EDA	STATE NEW MEXICO
Location CRUSTAL 2410' FWL Sec. 30 Twp. 22-S R. 3-E	
Other Logs G.O. 10 F.O. 10	
Elevation Top 3426 Base 3412	
Permeability Date 11-1-51 Per ALL	
Log Measured From Surface to 100' Depth Date 11-1-51	
Logging Measured From Surface to 100' Depth	
Run No. 1	Unit Oil
Date 11-1-51	
Total Depth Driller 3426	
Total Depth Water 3426	
Fig. 100' to 1000'	
Cig. 100' to 1000'	
Survey begin 1000' (B.S. 100' 1)	
Survey end 1000' (B.S. 100' 1)	
Cig. 100' to 1000'	
Bit Size 0-1 1/2	
Mud Data - Type Water Base	
Weight 17.5	
Viscosity 48	
Ph. 9.5	
Wt. Losses 0.001	
Per. % Surface Temp 100.0	
Per. % Max. Hole Temp 100.0	
Per. % 100.0	
Per. % 100.0	
Per. % 100.0	
Source Mud Sample 1000'	
Recorded By J. C. C. C.	
Witnessed By J. C. C. C.	
Logging Tool No. 100.0	



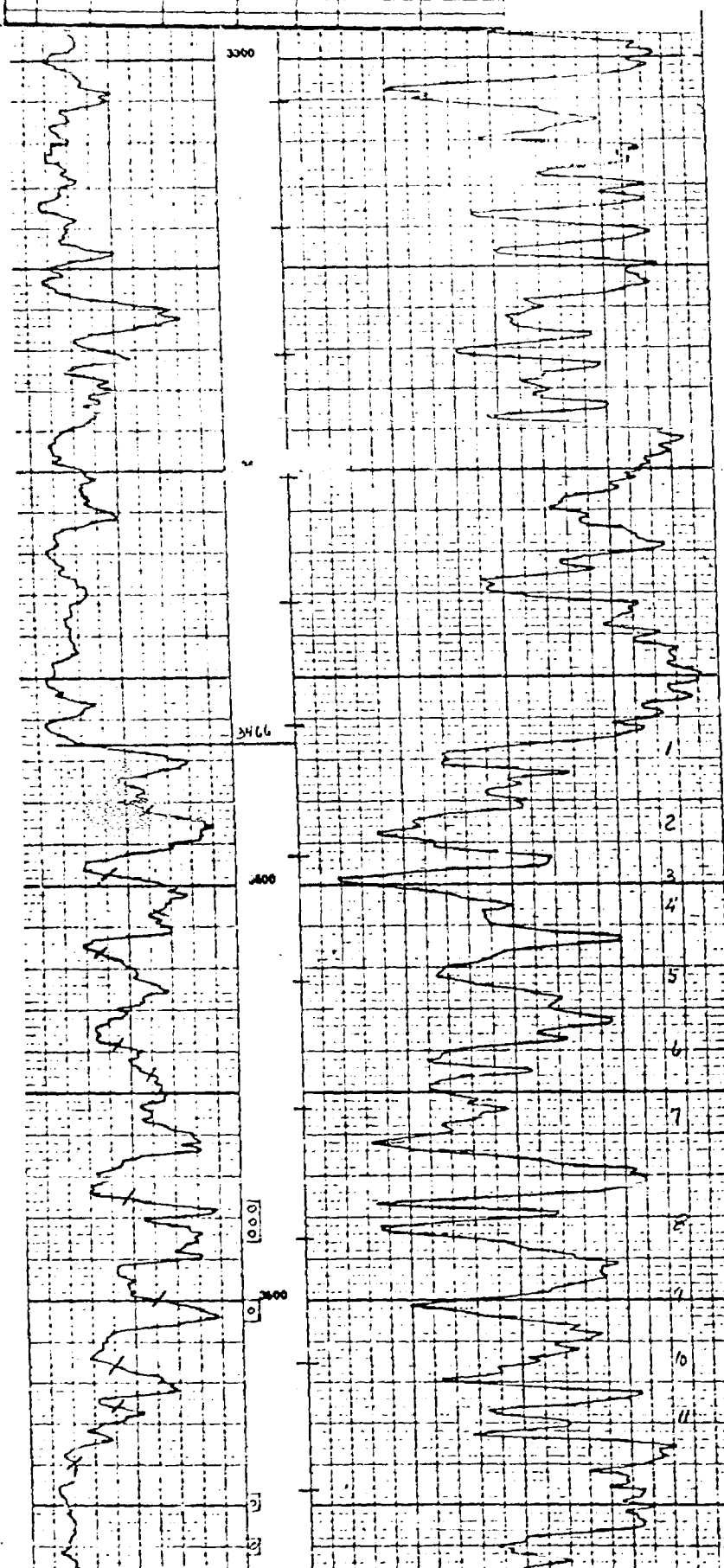
[illegible]

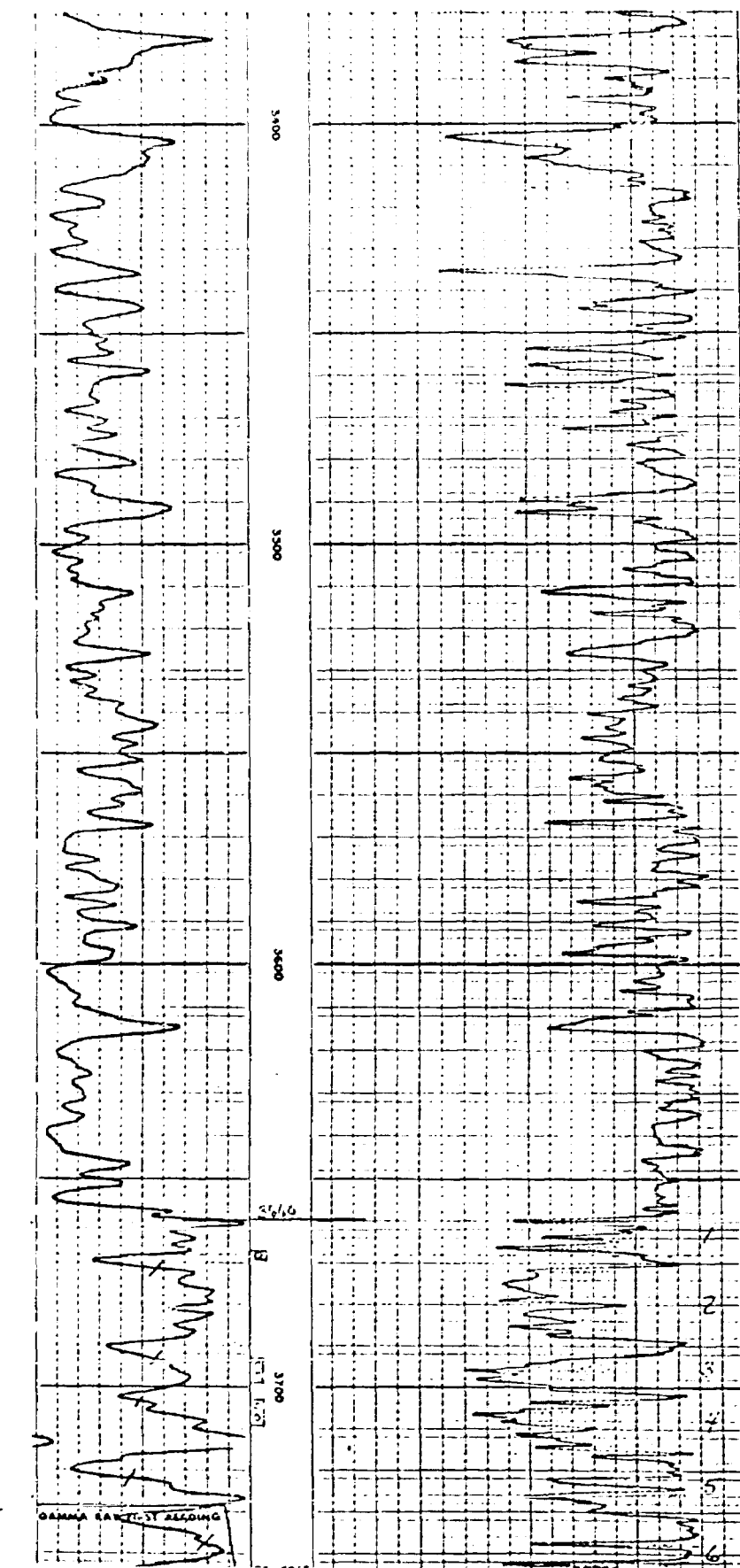
FOUO

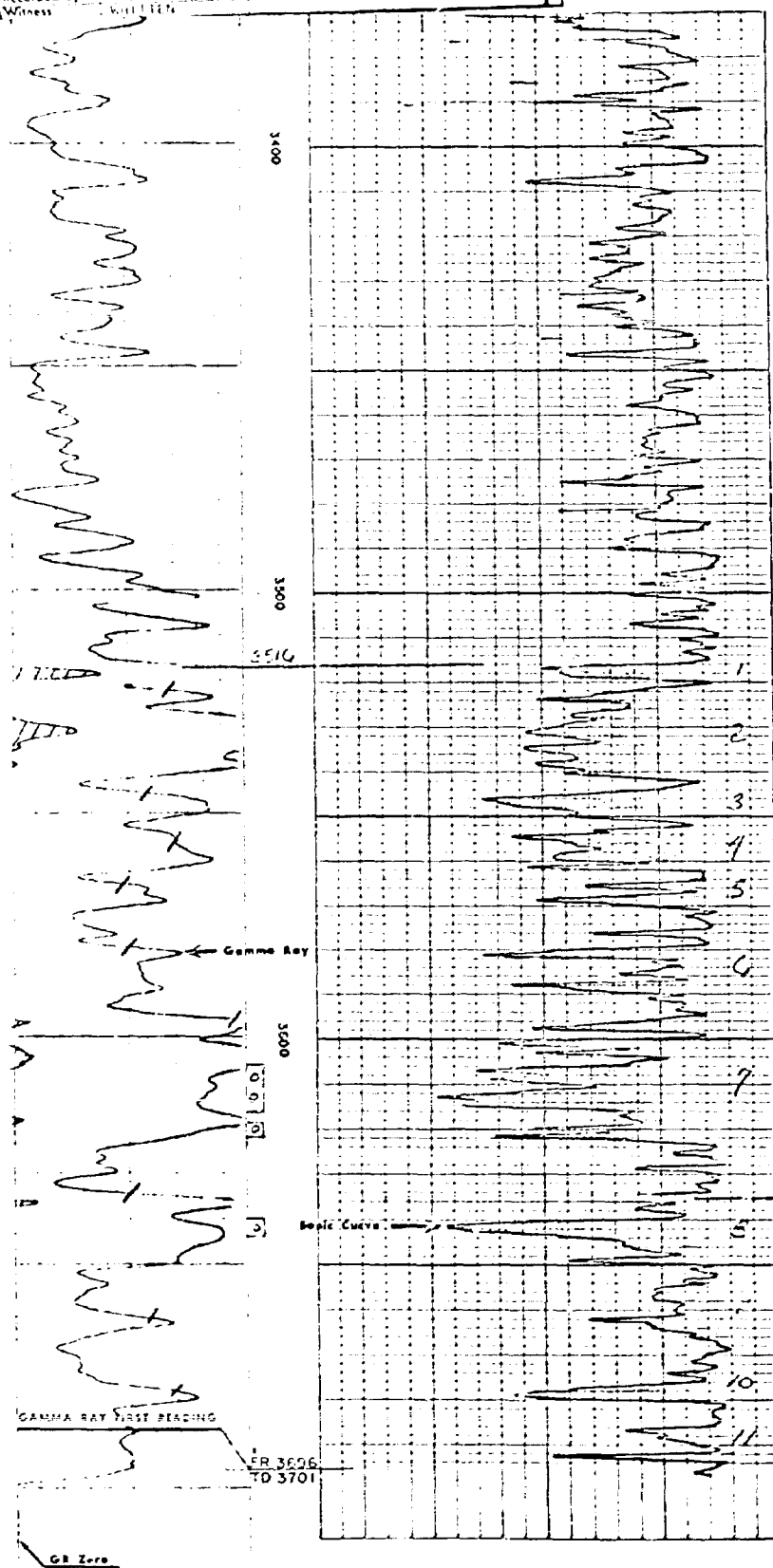
Permanent Datum	100	Station	20
ing Measured from		It Above Permanent Datum	37.4
Drilling Measured from			37.4

Date	11-1-60		
Run No.	010		
Site Loc.	121/4		
Geoth. Station	121/4		
Depth (Feet)	500		
Bottom Logg. Interval	500		
Top Logg. Interval	500 ✓		
Log. Fluid Density	1.00		
Seal Log. (in C)			
Density 10' Cor.			
Level	121/4		
Was Rec. Temp. Log.?			
Type of Time			
Recorded by	F. W. A. S. T.		
Witnessed by	W. J. T. H.		

Run No.	Bore Hole Record			Casing Record			
	ht	from JMS	To	Use	Wall	from JMS	To
11		340	340	7 1/2'		340	340
6	1 1/4	340	3076	2 7/8		JMS	3076





[illegible]

Simultaneous
Radiation Log

LOG NO. _____
 LOCATION _____
 TRUCK NO. _____

COMPANY _____
 WELL _____
 FIELD _____
 COUNTY _____
 STATE _____
 LOCATION _____
 LOG BEARS FROM _____
 ORLG BEGS FROM _____
 PERMANENT DATUM _____

CASING RECORD				BORE HOLE RECORD			
SIZE	WT	FROM	TO	SIZE	WT	FROM	TO
2 1/2"	12.4	0	110	1 1/2"	100	0	210

TYPE OF LOG _____
 RUN NO. _____
 DATE _____
 TOTAL DEPTH - DRILLER _____
 TOTAL DEPTH - P.L.A.C. _____
 FLUID IN HOLE _____
 FLUID LEVEL _____
 MAXIMUM TEMPERATURE _____
 INSTRUMENT O.C. AND NO. _____
 INSTRUMENT TYPE _____
 NEUTRON SOURCE TYPE _____
 CPS FOR CALIB STD. - OR _____

WITNESSED BY _____

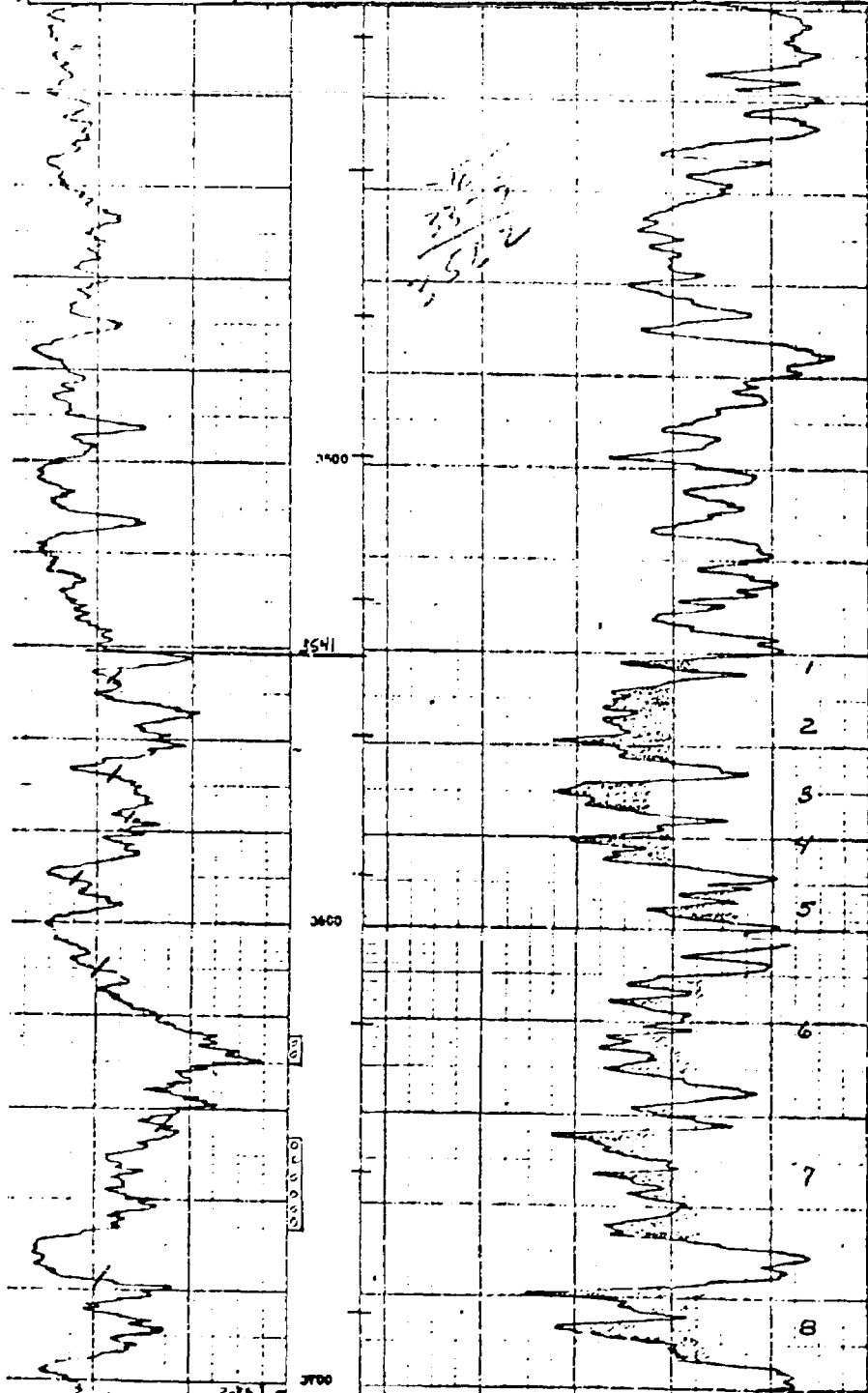
LOGGED INTERVAL RECORD				GAMMA RAY				NEUTRON			
SCALE	FROM	TO	SPEED	SENSITIVITY	SCALE	T.C.	SENSITIVITY	SCALE	T.C.		
100'	FT	FT	MIN	RECO'S	SCALE	SEC	RECO'S	SCALE	SEC		
1	0	10	10	20	100	10	100	100	10		
2	10	20	10	20	100	10	100	100	10		

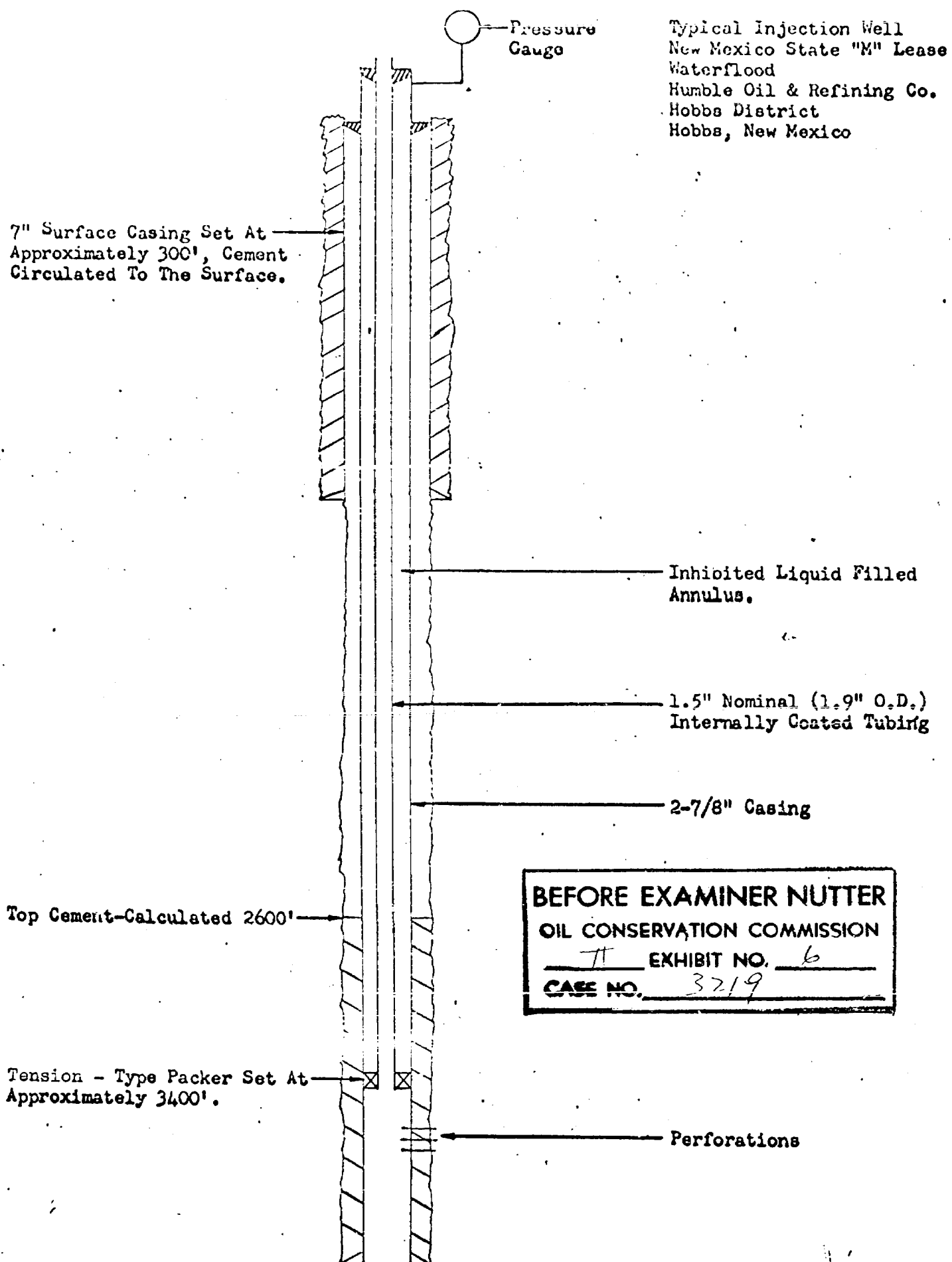
LOG ZERO AND SCALE DATA

REMARKS: IN LOGGING AREA _____

IN TO SCALE
 ZERO SCALE

GAMMA RAY - IN 100' - _____
 NEUTRON - IN 100' - _____





BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO. 3719

Humble Oil & Refining Company
New Mexico State "M" Lease

PROPOSED INJECTION WELLS' CASING PROGRAM

Well No.	Surface Casing Seat	Top Cement	Oil String Seat	Top Cement
4	9-5/8" Set @ 465'	Calculated 99'	5-1/2" Set @ 3578'	Calculated 2600'
13	8-5/8" Set @ 315'	Circulated	5-1/2" Set @ 3668'	Temp. Survey 1760'
14	7-5/8" Set @ 304'	Circulated	2-7/8" Set @ 3848'	Temp. Survey 2660'
15	7-5/8" Set @ 332'	Circulated	2-7/8" Set @ 3717'	Calculated 2600'
16	7-5/8" Set @ 340'	Circulated	2-7/8" Set @ 3689'	Calculated 2600'
22	7-5/8" Set @ 341'	Circulated	2-7/8" Set @ 3678'	Calculated 2600'
24	9-5/8" Set @ 1216'	Circulated	2-7/8" Set @ 3820'	Calculated 2600'
32	7" Set @ 316'	Circulated	2-7/8" Set @ 3863'	Calculated 2600'
33	7" Set @ 293'	Circulated	2-7/8" Set @ 3775'	Calculated 2600'
41	7" Set @ 301'	Circulated	2-7/8" Set @ 3749'	Temp. Survey 2600'
42	7" Set @ 291'	Circulated	2-7/8" Set @ 3760'	Temp. Survey 2400'
44	7" Set @ 294'	Circulated	2-7/8" Set @ 3699'	Temp. Survey 2325'
45	7" Set @ 298'	Circulated	2-7/8" Set @ 3764'	Temp. Survey 2500'
46	Will Drill			

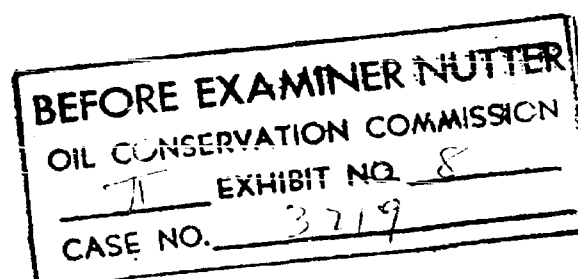
BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 7
CASE NO. 3219

March 5, 1965

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



Dear Mr. Porter:

Reference is made to the application of Humble Oil & Refining Company dated February 16, 1965 seeking approval to convert to injection the 13 wells listed on the attachment and also to use the new well listed for injection. The wells are identified on the attachment as State M Lease Wells 4, 13, 14, 15, 16, 22, 24, 32, 33, 41, 42, 44, 45 and 46. The new well being No. 46.

This office offers no objection to the granting of the application provided injection is accomplished in the manner set forth in paragraph 2 of the Order R-2556 which resulted from the hearing on Case 2879 and further provided that in each well, including the new one, the permanent type packer is set well below the top of the cement surrounding the casing in which it is set.

Yours truly,

S. E. Reynolds
State Engineer

By:

Frank E. Irby
Chief
Water Rights Division

FEI/ma
cc-Humble Oil & Ref. Co.
F. H. Hennighausen

LOCATIONS OF PROPOSED
STATE "M" LEASE INJECTION WELLS

<u>WELL NO.</u>	<u>UNIT</u>	<u>FOOTAGES</u>	<u>SECTION</u>	<u>TOWNSHIP</u>	<u>RANGE</u>
4	C	660' FNL, 1980' FWL	19	22S	37E
13	K	1980' FSL, 1980' FWL	20	22S	37E
14	H	1980' FNL, 660' FEL	31	22S	37E
15	N	660' FSL, 1980' FWL	29	22S	37E
16	J	1980' FSL, 1980' FEL	29	22S	37E
22	B	660' FNL, 1980' FEL	29	22S	37E
24	O	660' FSL, 1980' FEL	19	22S	37E
32	M	660' FSL, 660' FWL	19	22S	37E
33	K	1980' FSL, 1880' FWL	19	22S	37E
41	O	990' FSL, 1980' FEL	30	22S	37E
42	E	892' FWL, 1650' FNL	19	22S	37E
44	I	1650' FSL, 990' FEL	19	22S	37E
45	C	2219' FWL, 330' FNL	30	22S	37E
46*	G	1880' FNL, 1880' FEL	19	22S	37E

*New Well

