

CASE 4069: Application of UNION
OIL CO. OF CALIF. for new pool,
discovery allowable & pool rules.

- add number

4069

Application
Transcripts.

Small Exhibits

ETC.

dearnley-meier reporting service, inc.

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

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



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 4, 1970

EXAMINER HEARING

IN THE MATTER OF:

Case No. 4069 being reopened pursuant
to the provisions of Order No. R-3701,
which order established 80-acre spacing
units for the Lovington-Devonian Pool,
Lea County, New Mexico, for a one-year
period.

CASE NUMBER
4069

BEFORE:

DANIEL S. NUTTER, Examiner

TRANSCRIPT OF HEARING

MR. HATCH: In the matter of Case No. 4069 being reopened pursuant to the provisions of Order Number R-5101, which order established 80-acre spacing units for the Lovington-Devonian Pool, Lea County, New Mexico, for a one-year period.

MR. RUSSELL: John F. Russell, Roswell, New Mexico, appearing on behalf of the applicant and I have one witness.

(Witness sworn.)

ADRIAN F. TURNEY

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. RUSSELL:

Q Will you please state your name for the record?

A Adrian F. Turney.

Q By whom are you employed and in what capacity?

A Union Oil Company of California.

MR. NUTTER: What is your last name?

THE WITNESS: Turney, T-u-r-n-e-y.

MR. NUTTER: And your first name is Adrian?

THE WITNESS: Yes, sir.

A I'm employed by Union Oil Company of California in Midland, Texas, as Petroleum Engineer.

Q Will you give a brief resume of your educational

background and practical experience?

A I attended Alvin Junior College in Alvin, Texas, and then I went to Texas A and M University where I graduated in January of 1965, with a Bachelor of Science in Petroleum Engineering. From February, 1965 to February, 1969, I was employed as a petroleum engineer by Texaco, Incorporated. From February, 1969 to September, 1969, I was employed as a petroleum engineer by Superior Oil Company. From September, 1969 to present, I'm employed as a petroleum engineer by Union Oil Company of California.

MR. RUSSELL: Are the witness's qualifications acceptable?

MR. NUTTER: Yes, they are.

Q Are you familiar with the application of the Case Number 4069, which is being reopened pursuant to the provision of Order Number R-3701?

A Yes, sir.

Q Now, in connection with this case, have you prepared some exhibits?

A Yes, sir.

(Whereupon, Exhibit Number 1
was marked for identification.)

Q Referring you to what has been identified as

Exhibit Number 1, will you identify that exhibit?

A Exhibit Number 1 is a base map of the Lovington-Devonian field.

Q What is the area outlined in red?

A The area outlined in red is the Midway drilling block that Union Oil of California, the estate of William D. McBee, Cities Service and Amerada are partners in.

Q What are the two circles that are outlined in red?

A These are the two producing wells in this field, Midway State Number 1, which is located in the southeast quarter of the northwest quarter, Section 12, Township 17 South, Range 36 East, and Midway State Well Number 2, which is located in the northwest quarter of the northeast quarter, Section 12, Township 17 South, Range 36 East.

Q Now, will you give a brief resume or history of the development in this field since the initial well was drilled?

A Four wells have been drilled in this field, total, Well Number 1, Well Number 2, Well Number 3 which was abandoned, and Well Number 4 which was abandoned. Both the last two wells were abandoned as dry holes.

Q They were the last two wells which were drilled?

A Yes, sir.

(Whereupon, Exhibit Number 2
was marked for identification.)

Q I will refer you to what has been marked as Exhibit Number 2, and ask you to tell what that exhibit represents?

A Exhibit Number 2 is a gamma ray neutron log on the Midway State Number 2 Well. It shows formation tops and it also indicates the Devonian zone, the Devonian top at 11,402 feet; the top of the Devonian pay, at 11,513 feet; perforated interval, 11,518 feet to 11,522 feet. We also show an oil-water contact at 11,604 feet.

(Whereupon, Exhibit Number 3
was marked for identification.)

Q Now, I'll refer you to what has been marked as Exhibit, Applicant's Exhibit Number 3, which consists of four pages, and ask you if this is a historical resume of the development in the field or of the two wells which you have completed?

A Yes, sir it is.

Q Will you go through and explain that exhibit?

A First of all, I would like to give the status of the reservoir development. Union Oil Company of California Number 1 Midway State was completed December 23rd, 1968, from perforations 11,476 feet to 11,520 feet, flowing 538 barrels of oil per day on a half-inch choke with sixty-five

pounds of tubing pressure and GOR of 170 standard cubic feet per barrel. Cumulative production to January 1st, 1970, is 133,973 barrels of oil and 16,264 m.c.f. of gas. Current production is approximately 316 barrels of oil per day and six barrels of water per day by flowing. Estimated ultimate primary recovery is approximately 440,000 barrels of oil.

The Union Oil Company of California Number 2 Midway State was completed February 21st, 1969, from perforations 11,518 feet to 11,523 feet, flowing 351 barrels of oil per day and nineteen barrels of water per day on one-half-inch choke with forty pounds of tubing pressure and GOR of 197 standard cubic feet per barrel. Cumulative production to January 1st, 1970, is 42,229 barrels of oil and 7,511 m.c.f. of gas. Current production is approximately 100 barrels of oil per day and 124 barrels of water per day by pumping. Estimated ultimate primary recovery is approximately 93,000 barrels of oil.

The Union Oil Company of California Number 3 Midway State was drilled to TD of 11,637 feet and temporarily abandoned April 23rd, 1969.

MR. NUTTER: Would you locate that for me, please?

THE WITNESS: Yes, sir. That is in the northwest quarter of the southeast quarter of Section 12, Township 17 South,

Range 36 East. It's located on the Tract Union McBee.

MR. NUTTER: Okay.

A The well was recompleted as a salt water disposal well January 18th, 1970, with injection into the Yates and San Andres formation from 4450 feet to 6068 feet open hole.

The Union Oil Company of California Number 4 at Midway State which is located in the northeast quarter of the northwest quarter, Section 12, Township 17 South, Range 36 East, was drilled to TD of 11,697 feet and temporarily abandoned July 13th, 1969. That is the current status of the reservoir development at this time.

Q Continue.

A I have some reservoir and fluid properties to present, oil and gas properties. Oil gravity forty-nine degrees API at sixty degrees Fahrenheit.

Q Is there any variation in this from the evidence which was submitted at the original Hearing?

A Yes. Some of the data is different.

Q Give it, then.

A Solution gas-oil ratio, 135 cubic feet per barrel. Previously this was reported as 170 cubic feet per barrel. Gas gravity 0.919; gas analysis is unchanged from the last presentation. Would you like for me to read it?

MR. NUTTER: No, don't read it if it is already in the record.

A Hydrogen sulphite and gas is unchanged from the previous Hearing. Estimated formation volume factor 1.13. It was previously reported as 1.15. This is due to the difference in the gas-oil ratio. Reservoir properties, average net pay thickness seventy-six feet. This was previously reported as ninety-four feet.

Q Can you explain that?

A The ninety-four feet was determined from the log on the Number 1 Midway State. Subsequent drilling has shown that this contains eighteen feet of pay which just isn't there.

Samples and testing have indicated that the top portion of the pay is tight. Average porosity 6.2 per cent. Average permeability 12.5 millidarcies. Estimated connate water saturation thirty-five per cent. Reservoir temperature 188 degrees Fahrenheit. Original bottom hole pressure 4490 PSIG at 7664 feet subsea. Estimated recovery factor twenty-five per cent. Assumed water-oil contact 7770 feet subsea. This was originally stated as 7780.

Productivity index of Midway State Number 1, 0.5 barrels of oil per day per PSI.

I have a reserve calculation, recoverable oil in barrels per acre foot. You want me to state the whole thing?

Q Just what was not in the original report.

A In the denominator, we now use 1.13 for a formation volume factor, where originally we used 1.15. This will give us sixty-nine barrels per acre foot, where originally we had sixty-eight barrels per acre foot. This gives us 5,244 barrels per acre, where originally we had 6,390 barrels per acre. This is due to the change in the net pay thickness. This gives us 420,000 barrels per 80 acres recoverable oil. Originally we had shown 511,600 barrels per 80 acres or 210,000 barrels per 40 acres, whereas originally we had shown 255,800 barrels per 40 acres.

I have some economics. Gross oil price, \$3.31 a barrel; originally we had used \$3.16 a barrel. Gross gas price, nine cents per m.c.f; original, ten cents per m.c.f. Royalties unchanged, twelve and a half per cent. State taxes, 6.16 per cent of value. Direct operating cost, \$100 per month per well while flowing. We had originally used \$500 per month per well while flowing. \$600 per month per well at initiation of pumping, increasing to \$2,000 per month per well at abandonment.

Economic limit is 24.2 barrels of oil per day. Originally we had used 25.4. This is due to the change in oil price and also we assumed 30.4 average days per month and no gas sales at abandonment. Average well profit, total cost of completed well, \$250,000, including proportionate share of battery with salt water disposal facilities. Total cost of pumping facilities, \$40,000 per well.

Dry hole cost, \$151,000. This wasn't shown at the last Hearing. Estimated profit after Federal income taxes -- all of these numbers have changed -- the net profit undiscounted for a 40-acre well, \$149,919. Previously we had shown \$220,611. For an 80-acre well, \$494,504. Previous, \$655,164.

Present worth at five per cent. I'm showing different discount factors this time, except for the eight per cent. This is more in line with the way Union looks at a profit. Discounted present worth at five per cent, 40-acre well, \$131,595. 80-acre well, \$436,644. Eight per cent discount factor, \$121,584. Previously this had been shown as \$176,509. For an 80-acre well, \$406,568. This has been previously shown as \$551,921.

At ten per cent discount factor for 40-acre well, \$115,273. 80-acre well, \$388,150. Twenty per cent discount factor, \$87,437 for a 40-acre well.

80-acre well, \$311,641.

Two new numbers, rate of return of 40-acre well is seventy-two per cent, and 80-acre well is 100 plus per cent. Profitability index, 40-acre well 0.46.

80-acre well, 1.55. Payout 1.0 years for 40-acre well. Previously it had been 1.1 years. For an 80-acre well, it's 0.8 years, unchanged.

The last page of the exhibit is a production summary on the two producing wells in this pool. It shows monthly oil production, days produced, daily average production and monthly gas production. The sum of the monthly oil production and monthly gas production columns are given on the bottom and these totals have been previously mentioned in the development.

The cumulative pool production to January 1st, 1970, 176,202 barrels of oil, 23,775 m.c.f gas. Pool GOR 135 standard cubic feet per barrel.

Q In your opinion, is this a very limited reservoir?

A Yes, sir.

Q What is that opinion based on?

A The drilling of the two dry holes, Numbers 3 and 4 Midway State, and the fact that Well Number 2 Midway State is a limited producer.

Q In your opinion, you feel that the temporary field rules should be made permanent?

A Yes, sir.

Q Do you have any plans at this time for any future drilling in this field?

A We are currently evaluating possibly one more location which would be a south offset to the Midway State Number 1 Well.

MR. RUSSELL: At this time, I would offer Applicant's Exhibits 1, 2 and 3 into evidence.

MR. NUTTER: Applicant's Exhibits 1 through 3 will be admitted in evidence.

(Whereupon, Exhibit Numbers 1, 2 and 3 were offered and admitted in evidence.)

MR. RUSSELL: I have no further questions of this witness.

CROSS-EXAMINATION

BY MR. NUTTER:

Q Mr. Turney, what does the general structure look like here? Is this an anticlinal structure or what?

MR. RUSSELL: I can put on a geologist for you.

MR. NUTTER: We probably have a structure map in this old case.

MR. RUSSELL: I think there is.

MR. NUTTER: I was just curious, since they have gone to the north to get a dry hole, gone to the northeast and have a limited producer, to the southeast and got another dry hole.

Q I imagine the structure indicates you have to go to the southwest, doesn't it?

A It's a very small structure, yes, sir.

MR. RUSSELL: We have a structure map and it's slightly different from what the original was and we will put that on --

MR. NUTTER: Okay. That will be fine. I don't have any other questions. Does anyone have any questions of Mr. Turney? He may be excused.

(Witness excused.)

(Whereupon, Exhibit Numbers 4 and 5 were marked for identification.)

(Witness sworn.)

MARVIN ZOLLER

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. RUSSELL:

Q Will you please state your name?

A I am Marvin Zoller, Union Oil Company.

Q In what capacity are you employed?

A Regional Development Geologist.

Q You are familiar with Case Number 4069, are you

not?

A Yes, sir.

Q Have you previously qualified to give testimony
before the New Mexico Oil Conservation Commission?

A Yes, sir.

Q In connection with this case which has been reopened,
have you prepared some exhibits?

A Yes, sir.

Q I'll refer you to what has been marked as
Applicant's Exhibit Number 4, and ask you to explain that
exhibit.

A Exhibit Number 4 is a structure contour map made
on the top of the Devonian and shows the two producing wells
and the two dry holes that have been drilled in the
immediate area.

It shows the oil-water contact at a minus 7770.
It shows that there might possibly be one location left to
drill in the field at a south or slightly southwest direction

from the discovery well, the Number 1 Midway State.

Q Does this differ in any way from the original contour map that was introduced in the case?

A Like almost a new world. There's no resemblance to it.

Q What is the difference?

A Well, the original map, of course, was a seismic map. At the time we had that hearing, we had one well completed, another one, I believe, about down, and the same seismic that found the field fell apart on the third and fourth wells, so we kind of gave up on the northwest and the southeast direction, and we're a little leery about going to the southwest because we don't have any seismic at all in the location where we would have to move to.

I think that's about all that Exhibit 4 shows. There's one point I think needs to be made. The top of the pay is roughly 100 feet below the top of the Devonian. Now, on Exhibit 4, this will have the effect of moving the oil-water contact in, reducing the size of the accumulation by about 100 feet on the contour. This is shown, I think, a lot better on Exhibit Number 5.

Q I refer you to Exhibit 5.

A The field is smaller than the structure map would

indicate. Exhibit 5 is a cross-section going from the left of the Union Number 1 Midway State and proceeding northeast to the Union Number 2 Midway State, and then on further northeast to an Amerada dry hole, a mile or so northeast of the field.

It shows the oil-water contact, the core analysis work that was done on the Number 1 Well, where the wells were perforated, what they tested, where the casing is. The greenish color proceeding across the left side, is that porosity which we feel is oil bearing, and then to the east the porosity is colored blue where we feel it to be water bearing.

I believe, other than that, the exhibit is self-explanatory. You would note the wavy line at the top of the Siluro-Unionian is the line we contoured on, but if you move in from that, then, to the top of the green, which is the top of the pay, this is the reduction in the size of the field which I referred to on the map.

Q Were exhibits 4 and 5 prepared by you or under your supervision and direction?

A Yes, sir.

MR. RUSSELL: I offer into evidence Applicant's Exhibits 4 and 5.

MR. NUTTER: Applicant's Exhibits 4 and 5 will be admitted in evidence.

(Whereupon, Exhibit Numbers 4 and 5 were offered and admitted in evidence.)

MR. RUSSELL: I have no further questions of this witness.

MR. NUTTER: So, it would appear, then, that your anticline is pretty well defined in every direction except in the south and southwest?

THE WITNESS: Except the southwest, we feel, and we just frankly don't know about that direction. We did know that that one fault exists. I don't believe there's any doubt about that.

MR. NUTTER: Maybe you have a chance if you don't have a seismic down there.

THE WITNESS: We have given this some consideration.

MR. NUTTER: Are there any further questions of the witness? He may be excused.

(Witness excused.)

MR. NUTTER: Does anyone have anything they wish to offer in Case 4069?

MR. HATCH: The Commission has received telegrams from Amerada-Hess Corporation, the estate of William D. McBee

and Cities Service Oil Company, concurring with the applicants in this case.

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

MR. RUSSELL: I have nothing further, Mr. Examiner.

MR. NUTTER: If there is nothing further in Case 4069, we will take the case under advisement and call a fifteen-minute recess.

I N D E X


<u>WITNESSES</u>	<u>PAGE</u>
ADRIAN F. TURNEY	
Direct Examination by Mr. Russell	2
Cross-Examination by Mr. Nutter	12
MARVIN ZOLLER	
Direct Examination by Mr. Russell	13

<u>NUMBER</u>	<u>MARKED FOR IDENTIFICATION</u>	<u>OFFERED AND ADMITTED IN EVIDENCE</u>
Exhibit #1	3	12
Exhibit #2	5	12
Exhibit #3	5	12
Exhibit #4	13	17
Exhibit #5	13	17

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

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

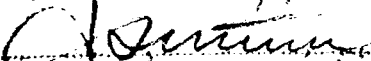
Witness my Hand and Seal this 7th day of March, 1970.


 NOTARY PUBLIC

My Commission Expires:

June 19, 1971

I do hereby certify that the foregoing is a complete record of the proceedings in the Executive Hearing of Case No. 4069 dated 03 07 1970.


 Commissioner, New Mexico Oil Conservation Commission

dearnley-meier

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

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



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 26, 1969

EXAMINER HEARING

IN THE MATTER OF:)

Application of Union Oil Company) Case No. 4069
of California for the creation)
of a new pool, assignment of)
discovery allowable, and the)
promulgation of special pool)
rules, Lea County, New Mexico)

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case 4069.

MR. HATCH: Application of Union Oil Company of California for the creation of a new pool, assignment of discovery allowable, and the promulgation of special pool rules, Lea County, New Mexico.

MR. RUSSELL: John F. Russell, Roswell, New Mexico, appearing on behalf of the applicant, and I have two witnesses to be sworn.

(Witnesses sworn.)

J. B. JORDAN,

called as a witness, having been first duly sworn, was examined and testified as follows:

BY MR. RUSSELL:

Q Will you please state your name, address, name of your employer, and the capacity in which you are employed?

A My name is J. B. Jordan, from Roswell, I'm employed by the Union Oil Company of California as a Development Geologist.

Q And you have previously qualified to give testimony before the Commission and the Examiner?

A Yes, I have.

Q Are you familiar with the application of Union Oil Company of California, Case Number 4069?

A Yes, I am.

Q What do you seek by that application?

A The Union Oil Company of California has made application for the creation of a new pool, assignment of the discovery allowable, and the promulgation of special field rules in Lea County, New Mexico.

Q And have you prepared some exhibits in connection with this application?

A Yes, I have.

Q Referring you to what has been marked as Applicant's Exhibit Number One, will you explain what that shows?

A Exhibit Number One is a plat, showing the location of all wells, which have been drilled within the radius of more than two miles from the discovery well, which is shown by the red arrow. The plat also shows the lease owners of record.

Q Will you give the location of the discovery well?

A The discovery well is located 2310 feet from the north and west of Section Twelve, Township 17 South, Range 36 east of Lea County, New Mexico.

Q And are you presently completing another well which is shown on this exhibit?

A We are presently completing another well, which is located 810 feet from the north line, and 1980 from the east line of Section Twelve.

MR. UTZ: Give me that again, please?

A 810 feet from the north line, and 1980 feet from the east line of Section Twelve.

Q That's the circle- -

A It's the blank circle, which is shown on the plat.

MR. RUSSELL: Now, will you also, from this map, tell the Examiner what acreage is covered by Union's leases or operating rights in this pool field?

A We have a operator's unit, which covers all of Section Twelve, the southwest quarter of Section One, and the southwest quarter of Section Seven, Township 17 South, Range 37 East.

Q Do you own the operating rights to all depths?

A The rights covered by the Union is from 9400 feet to the bottom.

Q And in the area where the discovery well was drilled, you only owned from 9400 feet down; is that correct?

A That is correct.

Q All right. I refer you to what has been marked as Applicant's Exhibit Number Two, and ask if you will explain that exhibit?

A Exhibit Number Two is a complete Gamma Ray Neutron Log of the discovery well, the Union Oil Company of California, Number One Midway State. This log has the geologic tops marked on it. It also indicates the pay zones, which are producing in the nearby fields. It also shows the perforations that this well was completed from.

Q Now, on Exhibit Two -- on this printed portion, it indicated that it was Amerada State Number Twelve dash One, and that has been changed to Midway State Number One, and that is because you changed the name after - -

A After we started- -

Q After you started drilling- -

A --after the well was drilled -- the name was changed.

Q And this is the log of the discovery well- -

A Yes- -

Q --reflected on Exhibit Number One?

A That is correct.

Q Okay. Now, I refer you to what has been marked as Exhibit Number Three, and ask you to explain what that exhibit portrays.

A Exhibit Number Three is a structural map. It is a geologic and seismic interpretation of the -- at the Devonian level in this field. It shows three dry Devonian wells, which were drilled to the northeast of the discovery. Also, a test -- a deep test, which did not reach the Devonian, to the southwest, which we projected a Devonian top in -- it is approximately 1200 feet low to the discovery well.

Q And there is also a dry Devonian in the southeast quarter of Section 32, which is not shown on this map; is that correct?

A That is right. It is more than two miles

away.

Q Now, it looks like your Number One Well came pretty close to hitting in the middle of the high structure; does it not?

A That is correct. It appears that it may be near the crest of the structure, and the Number Two Well -- we have a datum on it of a minus 7569, which, essentially, fits the contours within reason.

Q Now, in your rules for this -- the proposed rules for this field, you have asked that the well be located in either the north half, the south half, the east half, or the west half of a governmental quarter quarter section; have you not?

A That is correct.

Q What is the reason for this request in the rules?

A The reason for this request is to give us a little better control, where we can more optimally locate these wells, to more efficiently drain the reservoir.

Q Now, you've also asked for 80-acre spacing.

In your opinion, will one well in this field efficiently drain 80 acres?

A Yes, I believe it will.

Q And what is your opinion based upon?

A It's based on the knowledge of other Devonian Fields; the reservoir rocks are very similar, it is a vuggy dolomite, which is fractured, and it usually has good communications.

Q Now, what field, if any, are you specifically referring to?

A Well, the one that I am more familiar with is the South Vacuum Field. The reservoir rocks are very similar, in that it has a lime cap on top, as we have found in the Midway Field.

Q And is that by Commission Rules, established on 80-acre spacing?

A It has been.

MR. UTZ: South Vacuum?

A South Vacuum.

MR. RUSSELL: All right, now, I refer you to what has been marked and identified as Applicant's Exhibit Number Four and ask you to explain that

exhibit.

A Exhibit Number Four is a cross section. It is two cross sections of the lower part of the Union Number One Midway State, and the Amerada Well to the northeast. The cross section on the left has been set up on a structural datum. The cross section on the right is set up on a stratigraphic datum, which is the -- what we think is the equivalent velocity zones. It is color-coated, so that you can pick out the permeability, velocity, water saturation, perforated intervals, drill-stem test. Essentially, you can see at a glance the core houses as compared to the log.

Q Did you identify the two wells from which the cross section was made?

A Yes -- the one on the right is the Union Number One Midway State; the one on the left is the Amerada LC State. There is a little plat map at the bottom, which you can locate the wells on.

Q Anything further in that exhibit you want to bring out?

A I don't think so.

Q Were Exhibits One through Four prepared by

you or under your supervision and direction?

A Yes, they were.

Q At this time I move the introduction of Exhibits One through Four.

MR. UTZ: Without objection, Exhibits One through Four will be entered into the Record.

MR. RUSSELL: I have no further questions of this witness.

MR. UTZ: If you had had a cross section like this on that offshore well, it would have never blown out - -

A It never would.

Q What is the interval perforation shown on your log?

A The interval is 11-4-76 to 11-5-20.

Q Did we use Exhibit Number Two?

MR. RUSSELL: Yes; that's the Log.

MR. UTZ: Are there any other questions of the witness? You may be excused.

- - - - -

D. G. HOLLAND,

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. RUSSELL:

Q Will you please state your name, address, name of your employer, and the capacity in which you are employed?

A My name is D. G. Holland, Midland, Texas, I work for Union Oil Company of California, employed as a Petroleum Engineer.

Q Have you previously qualified to give expert testimony before the Commission or its Examiner?

A No, sir.

Q Will you give a brief resume of your educational background and professional experience as an engineer?

A I have a Bachelor of Science Degree in Petroleum Engineering from the University of Texas, and I've worked as a Petroleum Engineer for approximately thirteen years in West Texas and Southeastern New Mexico.

Q And you are familiar with the area- -

A Yes, I am.

Q - -which the application is directed?

A Yes- -

Q Are the witness' qualifications acceptable?

MR. UTZ: Yes, they are.

MR. RUSSELL: Now, you are familiar with Union Oil Company of California's Application in this case: are you not?

A Yes, sir.

Q Have you prepared some exhibits in connection with the application?

A Yes, sir; I have.

Q I'll direct your attention to exhibit -- which has been marked as Applicant's Exhibit Number Five, and ask you to explain what that is.

A Okay, sir. It is a commercial service company's report of a bottom log build up test, that ran for a duration of 143 hours. It also shows the stabilized flowing rate, prior to shutting in the stabilized flowing bottom hole pressure, both at the recorded depth and the extrapolated depth of the mid-perforations at 11,498 feet. At the bottom, it

shows the accumulated oil production to that date, and shows the theoretical time for the flowing period, based on that stabilized flow rate.

Q At this time, let me ask you one thing. Exhibit Five consists of four pages; is that correct?

A That is correct.

Q Okay -- go ahead.

A It consists of five pages, sir.

Q Five -- correct.

A Yes -- the second page is simply a plot of the log accumulative shut-in time and hours versus the extrapolated bottom hole pressure at mid-perforations. The third page represents a theoretical calculation of the "T" plus Delta "T" over "T" versus the extrapolated bottom hole pressure at mid-perforations. This is for the purpose of determining the true extrapolated bottom hole pressure and the permeability of the perforated interval. Page four represents a flowing bottom hole pressure gradient to use in extrapolating -- well, in this particular case, it's used to determine the flow and bottom hole pressure for purposes of PI calculations. Page five represents

the static gradient with the well shut in for the purposes of extrapolation from the recorded depth, or the bomb depth to the midpoint of perforations.

Q I now refer you to what has been marked as Applicant's Exhibit Number Six, consisting of three pages, and ask you to explain that exhibit.

A This is a commercial core lab report, giving the whole core analysis of the two cores taken on our Midway State Number One Well. The first core being from 11,444 to 11,499. The second core being from 11,500 to 11,541. The third page of Exhibit Six is a graphical representation of the core analysis on a log scale for purposes of comparing with electric logs.

Q Referring you again to Exhibit Number Six, on pages one, two and three, where the well designation is, it indicates Midway State Number One dash twelve; that twelve should be stricken; should it not?

A On the copy that I have, it has Amerada State One dash twelve; it should be Midway State Number One.

Q Which is the discovery well?

A Yes, sir.

Q Now, I refer you to what has been marked as Applicant's Exhibit Number Seven, consisting of four pages, and ask you to explain that exhibit.

A Okay. Briefly, the first paragraph sets out the status of the wells at this time. The Union Oil Company Number One Midway State Well, completed December the twenty-third, 1968, for perforations at 11,476 to 520, flowing 539 barrels of oil a day, on a half-inch choke, with sixty-five pounds tubing pressure, and a measured gas-oil ratio of 170. This completion was after treatment with 750 gallons of fifteen per cent hydrochloric acid. The cumulative production through February twenty-third, '69, from the Number One Well, is 20,260 barrels of oil. Farther, this -- the test capacity of the well indicates that current capacity is equivalent to the initial potential. The Union Oil Company of California Number Two, Midway State Well, was drilled to 11,600 feet, and is currently in the process of being completed from perforations at 11,578 to 11,594 feet.

Under "a" on the first page, there is a summary of the reservoir and fluid properties from this reservoir, along with the gas analysis that we have. On the second page, under "b", we have summarized the reservoir properties from an average of the two wells that have been drilled to date. Under the number one item, we show an average of 94 feet of net pay thickness. This is based on 115 feet, from the Number One Midway Well, and 73 feet from the Number Two Midway Well. The lower portion, there is a -- well, under average recoverable reserves, for the two wells -- there is a calculation made that volumetrically gives our recoverable reserves. The 7758 represents a constant, which is barrels per acre foot. The point 062, represents the average porosity from the two wells. The point 65, represents one less the water saturation. The point 25, represents our estimated recovery factor, and in the lower portion, the one point one five, represents our estimated formation volume factor.

The next heading is Economics, and is based on the current oil price we are receiving, without any

truckage charges. At this time, we are trucking -- this cost is, assuming that we get a pipeline connection; the gross gas price is based on what we expect to receive for gas. However, we do not, as of this date, have a -- a gas connection. The royalty represents the royalty under the wells we've drilled to date -- there's state taxes, of course. Under "b", we have our estimated operating costs, based on experience. And under "c", we have our calculated economic limit, based on operating costs abandoned. The \$2,000 is the cost we expect to have at the time we abandon the well. The three-sixteen is the price-- the oil price, the point 875 is our working interest, the point 9384 is one less our percentage state taxes, and our thirty point four is our average days per month, which gives us the 25 point four barrel per day, economic limited. Under "d", we--

MR. UTZ: What did you say the 9384 was?

A It's one less the state tax rate -- one less -- point 0616.

Q And 875 is your interest?

A Our working interest; yes, sir.

Q And the 316 is the price?

A Yes, sir. Under "d", we have our average well cost, which the first portion is our drilling costs and completion costs -- proportionate cost of tank battery, and proportionate cost of any salt water disposal system that we will have to put in. Our number two item, under cost, is the cost of pumping equipment, when the well goes on artificial lift. Our "e" is the results of our economic calculations, based on the previous figures, with the discount rates of six, seven, eight, and nine per cent being shown for a forty-acre well, versus an eighty-acre well, and, also, the pay-out time, in years, being shown at the bottom.

MR. RUSSELL: The figure which you used for state taxes is based upon the hopeful assumption that the present legislature doesn't increase taxes; is that correct?

A Yes, sir. It's the figure we are using as of this date.

Q In your opinion, will one well in this field efficiently drain eighty acres?

A Yes, sir.

Q And what is that opinion based on?

A It's based on work done on other southeastern Devonian Reservoirs in New Mexico, with particular emphasis being on the South Vacuum.

Q Which, again, is on an eighty-acre spacing- -

A Yes, sir.

Q And, in your opinion, if, having expressed an opinion, that one well would efficiently drill -- drain eighty acres, and in your opinion it would be a great economic waste to require two wells to drill the same acreage?

A Yes, sir; I feel it would create economic waste.

Q Now, you have previously filed Forms C-109 with the Commission, requesting a discovery allowable; have you not?

A Yes, sir; we have.

Q And what was your estimate of the discovery allowable?

A Approximately, 57,700 barrels.

Q And all offset operators have been notified of your application for field rules and the discovery allowable have they not?

A Yes, sir; they have.

Q All right, now, let's go there to what has been identified as Applicant's Exhibit Number Eight, and ask you to explain what that is.

A Applicant's Exhibit Number Eight is a set of rules that we propose for the Midway Devonian Pool. This set is identical with that now in use on the Martin Wolfcamp Field. Do you want me to go through each one, one by one?

A I don't think it's necessary -- I think the Examiner is familiar with the rules of that Pool; are you not?

MR. UTZ: I'd better be.

MR. RUSSELL: Now, if the Commission sees fit to adopt these special rules and regulations, in your opinion, will the development of the field, in accordance with them, protect correlative rights of others in the field, and prevent waste?

A Yes, sir. I believe it will.

Q Now, you also are suggesting, are you not, the name of this field be the Midway Devonian Field?

A That's correct, sir.

Q And were Exhibits Five through Eight prepared by you, or under your supervision and direction?

A Yes, sir. They were.

Q Mr. Examiner, at this time I move the introduction of Applicant's Exhibits Five through Eight into evidence.

MR. UTZ: Without objection, Exhibits Five through Eight will be entered into the Record in this case.

MR. RUSSELL: I have no further questions of this witness.

CROSS EXAMINATION

BY MR. UTZ:

Q On page three of your Exhibit Seven, what did you say the 7758 -- I ought to know --

A It's barrels per acre foot. It's a constant barrels per acre foot.

Q Now, your last calculation, where you calculated present work at six, seven, eight, and nine

per cent; now, is that done so you are giving us a pick of the percentage that we might want to accept, or are you estimating down to years?

A Well, actually, I was giving you a pick, because right now with the prime rate moving like it is, it's hard to tell.

Q I didn't know whether each one of those percentages might represent so many years- -

A No, sir. The reason we use the four numbers was to give the Commission a chance to pick the one that they felt would fairly represent the current money market.

Q The way it's going up, you could very well apply it to years; couldn't you?

A Yes, sir. It's seven per cent now and expected to go up, I understand.

Q On Exhibit Number Six, I note your permeability graph goes over to -- oh, something in excess of a hundred millidarcies. Did you consider that pretty good permeability?

A Yes, sir. I considered it to be excellent permeability, but probably not actually representative

of the reservoir as a whole.

Q Representative of the core only?

A Yes, sir.

Q Your reserve calculations are based on the extrapolated pressure of 4522?

A No, sir. Now, that 4522 is the service company's estimate. We feel like that -- that the -- according to the Horner Method, the straight line portion of the curve would follow within this portion here (indicating), and would extrapolate to 4490.

Q You mean back down about midway on the- -

A Yes, sir.

Q - -curve here?

A Yes, sir. Between, approximately, on the log, reading at the top, between, approximately, 150 and thirteen, would be the straight line portion, which extrapolates out to 4490. And that, by the way, is checked by an extrapolation of a drill stem test that was taken in the top portion of the reservoir at the time the well was drilled.

Q And that's the pressure you used?

A Yes, sir. 4490 is the pressure we used.

In other words, we feel that the graph is shown -- would break over 4490, instead of continuing on up to 4522.

Q Actually, this problem won't be a very big pool, according to- -

A No, sir. I don't expect it to be.

Q Probably four wells?

A That's in the order of what I expect.

Q Are there any questions of the witness?

You may be excused. Are there any statements in this case?

MR. HATCH: I have telegrams from City Service Oil Company, Pan American Petroleum Corporation, W. B. McBee, Junior, and the estate of W. B. McBee, by W. B. McBee, Junior, expressing support.

MR. RUSSELL: Mr. Examiner, Mr. Hocker gave me a statement on behalf of Amerada -- he couldn't stay to read it in, and I would like to read it into the Record. Is that satisfactory?

UTZ: Yes.

MR. RUSSELL: Dated February 26, 1969,

Statement for Amerada Petroleum Corporation in Case 4069, on February 26, 1969. Amerada Petroleum Corporation has a working interest in the two wells drilled by Union Oil of California, in the Midway Devonian Oil Pool. Amerada supports the Application of Union Oil of California in Case 4069 to have discovery oil allowable assigned and to create special pool rules, providing for eighty-acre oil spacing. Signed, R. C. Hocker.

MR. UTZ: All right. The case will be taken under advisement.

* * * * *

I N D E X

WITNESS

J. B. JORDAN

Direct Examination by Mr. Russell. . . . 2 - 10

Cross Examination by Mr. Utz. 10 - 10

D. G. HOLLAND

Direct Examination by Mr. Russell. . . .11 - 21

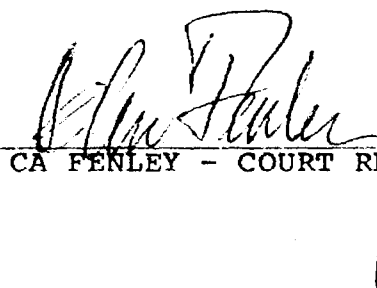
Cross Examination by Mr. Utz. 21 - 25

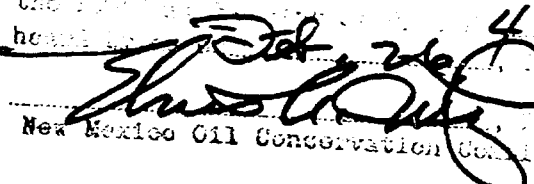
EXHIBITSApplicant's
1 through 8OFFERED AND
ADMITTED

1 through 8

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.


 CA FENLEY - COURT REPORTER

I do hereby certify that the foregoing is a true and correct record of the hearing held before the New Mexico Oil Conservation Commission on Feb. 26, 1969.

 New Mexico Oil Conservation Commission

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. 4069
Order No. R-3701-A

APPLICATION OF UNION OIL COMPANY OF
CALIFORNIA FOR THE CREATION OF A NEW
POOL, ASSIGNMENT OF DISCOVERY ALLOW-
ABLE, AND THE PROMULGATION OF SPECIAL
POOL RULES, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 4, 1970,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 11th day of March, 1970, 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 by Order No. R-3701, dated March 12, 1969, tempo-
rary Special Rules and Regulations were promulgated for the
Lovington-Devonian Pool, Lea County, New Mexico, establishing
80-acre spacing units for a period of one year.

(3) That pursuant to the provisions of Order No. R-3701,
this case was reopened to allow the operators in the subject pool
to appear and show cause why the Lovington-Devonian Pool should
not be developed on 40-acre spacing units.

(4) That the evidence establishes that one well in the
Lovington-Devonian Pool can efficiently and economically drain
and develop 80 acres.

-2-

CASE No. 4069

Order No. R-3701-A

(5) That the Special Rules and Regulations promulgated by Order No. R-3701 have afforded and will afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the oil in the pool.

(6) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, the Special Rules and Regulations promulgated by Order No. R-3701 should be continued in full force and effect until further order of the Commission.

IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations governing the Lovington-Devonian Pool, Lea County, New Mexico, promulgated by Order No. R-3701, are hereby continued in full force and effect until further order of the Commission.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


DAVID F. CARGO, Chairman


ALEX J. ARMIJO, Member


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



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:

CASE No. 4069
Order No. R-3701
NOMENCLATURE

APPLICATION OF UNION OIL COMPANY OF
CALIFORNIA FOR THE CREATION OF A NEW
POOL, ASSIGNMENT OF DISCOVERY ALLOW-
ABLE, AND THE PROMULGATION OF SPECIAL
POOL RULES, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 26, 1969,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 12th day of March, 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, Union Oil Company of California,
seeks the creation of a new oil pool for Devonian production in
Lea County, New Mexico, and the assignment of an oil discovery
allowable in the amount of approximately 57,380 barrels to the
discovery well.

(3) That the applicant also seeks the promulgation of
special rules for said pool, including a provision for 80-acre
proration units.

-2-

CASE No. 4069
Order No. R-3701

(4) That the evidence presently available indicates that the Union Oil Company of California Midway State Well No. 1, located in Unit F of Section 12, Township 17 South, Range 36 East, NMPM, Lea County, New Mexico, has discovered a separate common source of supply which should be designated the Lovington-Devonian Pool; that the vertical limits of said pool should be the Devonian formation, and that the horizontal limits of said pool should be all of said Section 12.

(5) That the discovery well for the aforesaid pool, Union Oil Company of California's Midway State Well No. 1, located in Unit F of Section 12, Township 17 South, Range 36 East, NMPM, Lea County, New Mexico, is entitled to and should receive a bonus discovery oil allowable in the amount of 57,380 barrels, based upon the top perforations in said well at 11,476 feet, to be assigned over a two-year period.

(6) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 80-acre spacing units should be promulgated for the Lovington-Devonian Pool.

(7) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(8) That the temporary special rules and regulations should be established for a one-year period in order to allow the operators in the subject pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(9) That this case should be reopened at an examiner hearing in March, 1970, at which time the operators in the subject pool should be prepared to appear and show cause why the Lovington-Devonian Pool should not be developed on 40-acre spacing units.

IT IS THEREFORE ORDERED:

(1) That a new pool in Lea County, New Mexico, classified as an oil pool for Devonian production, is hereby created and

-3-

CASE No. 4069

Order No. R-3701

designated the Lovington-Devonian Pool, with vertical limits comprising the Devonian formation and horizontal limits comprising the following-described area:

TOWNSHIP 17 SOUTH, RANGE 36 EAST, NMFM
Section 12: All

(2) That the aforesaid discovery well is hereby authorized an oil discovery allowable of 57,380 barrels to be assigned to said well at the rate of 79 barrels per day in accordance with Rule 509 of the Commission Rules and Regulations.

(3) That temporary Special Rules and Regulations for the Lovington-Devonian Pool, Lea County, New Mexico, are hereby promulgated as follows:

**SPECIAL RULES AND REGULATIONS
FOR THE
LOVINGTON-DEVONIAN POOL**

RULE 1. Each well completed or recompleted in the Lovington-Devonian Pool or in the Devonian formation within one mile thereof, and not nearer to or within the limits of another designated Devonian oil pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 80 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a governmental quarter section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit comprising a governmental quarter-quarter section or lot, or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset

operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well shall be located within 150 feet of the center of a governmental quarter-quarter section or lot.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (79 through 81 acres) shall be assigned an 80-acre proportional factor of 6.67 for allowable purposes, and in the event there is more than one well on an 80-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 80 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Lovington-Devonian Pool or in the Devonian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before April 1, 1969.

(2) That each well presently drilling to or completed in the Lovington-Devonian Pool or in the Devonian formation within one mile thereof shall receive a 40-acre allowable until a Form C-102 dedicating 80 acres to the well has been filed with the Commission.

-5-

CASE No. 4069
Order No. R-3701

(3) That this case shall be reopened at an examiner hearing in March, 1970, at which time the operators in the subject pool should be prepared to appear and show cause why the Lovington-Devonian Pool should not be developed on 40-acre spacing units.

(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. ARMIJO, Member



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



esr/


western union

Telegram

(408).

KA151 NSB421

NS MDA103 LM PDB=MIDLAND TEX 3-354^{PM} CST=
THE NEW MEXICO OIL CONSERVATION COMM=
BOX 2088 SANTA FE NMEX=

SW
1970 MAR 3 PM 3:42

ATTN A L PORTER: REGARDING LOVINGTON DEVONIAN POOL LEA
COUNTY NEW MEXICO RULES REVIEW (CASE 4069 RE-OPENED)
HEARING MARCH 4 1970. AMERADA HESS CORP OWNS 18.85
PERCENT IN THE MIDWAY STATE LEASE LOVINGTON DEVONIAN
POOL LEA COUNTY NEW MEXICO AND CONCURS WITH UNION OIL
COMPANY OF CALIFORNIA IN REQUESTING PERMANENT 80 ACRE
SPACING UNITS FOR THE POOL=

D G GRIFFIN AMERADA HESS CORP=



Telegram

KA110 DA168

MAR 1 1970 (247).

OIL CONSERVATION COMM.

D LLK215 XH PDF=DALLAS TEX 2 206P CST=
NEW MEXICO OIL CONSERVATION COMMISSION=

1970 MAR 2 PM 2 17

SANTE FE NMEX=

RE LOVINGTON DEVONIAN POOL LEA COUNTY NEW MEXICO RULES
REVIEW CASE 4069 RE OPENED. HEARING MARCH 4 1970 THE
ESTATE OF WILLIAM D MCBEE OWNING 7.3 PERCENT OF
PRODUCING PROPERTIES INVOLVED RESPECTFULLY SUPPORTS
UNION OIL COMPANY OF CALIFORNIA REQUEST FOR THE
CONTINUANCE OF 80 ACRES SPACING AND THAT THE TEMPORARY
RULES BE MADE PERMANENT FOR 80 ACRE SPACING=

R E MCCARLEY ENGINEER ESTATE OF WILLIAM D MCBEE=

=4069 4 1970 7.3 80 80=



Telegram

KA097 NSA393

1970 FEB 27 PM 2 10

NS MDA086 NP PD=MIDLAND TEX 27 228P CST=
NEW MEXICO OIL CONSERVATION COMMISSION=
BOX 871 SANTA FE NMEX=

A handwritten signature in dark ink, appearing to be 'L. J. ...' or similar, written over the teletype text.

RE CASE #4069. CITIES SERVICE OIL COMPANY RECOMMENDS
ORDER R-3701, ADOPTING A TEMPORARY 80 ACRE SPACING
PATTERN FOR THE LOVINGTON DEVONIAN POOL, LEA COUNTY NEW
MEXICO, BE MADE PERMANENT. PRODUCTION HISTORY UNDER THE
TEMPORARY RULE INDICATES THE POOL CAN BE EFFECTIVELY
DRAINED ON 80 ACRE SPACING AND THAT ECONOMIC LOSS WOULD
RESULT IN DRILLING WELLS ON A DENSER SPACING PATTERN.
CITIES SERVICE OIL COMPANY HOLDS 8.376 PERCENT INTEREST



Telegram
(235)

IN THE WELLS CURRENTLY PRODUCING IN THE POOL=
E F MOTTER REGION ENGINEER CITIES SERVICE OIL CO=

RECEIVED
FEB 27 1970
OIL CONSERVATION COMM.

=#4069 R-3701 80 80 8.376=

LAW OFFICES OF
JOHN F. RUSSELL
412 HINKLE BUILDING
P. O. DRAWER 640
ROSWELL, NEW MEXICO 88201

70 MAR 2 AM 8 34

TELEPHONE 622-4641
AREA CODE 505

February 27, 1970

Mr. A. L. Porter, Jr.
Secretary-Director
NEW MEXICO OIL
CONSERVATION COMMISSION
Santa Fe, New Mexico

JFR
new exhibit by
Union

Re: Union Oil Company
of California
Case # 4069

Dear Mr. Porter:

I transmit herewith in triplicate, an exhibit for
the above captioned case.

Very truly yours,

John F. Russell
John F. Russell

JFR:eb
encl.

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 4, 1970

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

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

CASE 4318: Application of Pan American Petroleum Corporation for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the consolidation of two existing non-standard gas proration units into one 320-acre non-standard unit comprising the N/2 of Section 7, Township 24 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to be dedicated to its Meyers "B" Federal R/A Wells Nos. 1 and 10, located in Units D and G, respectively, of said Section 7. Applicant further seeks authority to produce the allowable assigned to said unit from either of said wells in any proportion.

CASE 4065: (Reopened):

In the matter of Case No. 4065 being reopened pursuant to the provisions of Order No. R-3706, which order established 80-acre spacing units for the South Eunice-San Andres Pool, Lea County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 40-acre units.

CASE 4314: (Continued and readvertised from February 25, 1970, Examiner Hearing)

Application of Coastal States Gas Producing Company for pool redelineation, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the redelineation of certain pool boundaries to include the deletion of the W/2 and SE/4 of Section 21, Township 13 South, Range 33 East, Lea County, New Mexico, from the Lazy J-Pennsylvanian Pool and the extension of the North Baum Upper Pennsylvanian Pool to include said deleted acreage.

CASE 4069:
(Reopened)

In the matter of Case No. 4069 being reopened pursuant to the provisions of Order No. R-3701, which order established 80-acre spacing units for the Lovington-Devonian Pool, Lea County, New Mexico, for a one-year period. All interested parties may appear and show cause why said pool should not be developed on 40-acre units.

- CASE 4317: (Continued from the February 15, 1970, Examiner Hearing)
Application of Union Oil Company of California for the creation of a new gas pool and special pool rules, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new San Andres gas pool for its Federal "18" Well No. 3 located 660 feet from the South and East lines of Section 18 Township 8 South, Range 38 East, Roosevelt County, New Mexico, and for the promulgation of special rules therefor, including provisions for 160-acre spacing units and a casing program.
- CASE 4319: Application of Texaco Inc. for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the North Vacuum-Abo Pool and the Vacuum-Wolfcamp Pool in the wellbores of its New Mexico "Q" State Well No. 4 and its New Mexico "N" State Well No. 6. triple completions located respectively in Unit P of Section 25, Township 17 South, Range 34 East and Unit L of Section 30, Township 17 South, Range 35 East, Lea County, New Mexico.
- CASE 4315: (Continued from February 25, 1970, Examiner Hearing)
Application of Pan American Petroleum Corporation for pool consolidation, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the consolidation of the Fowler-Lower Paddock and Fowler-Blinebry Pools, Lea County, New Mexico, into one pool. Applicant further requests that the consolidated pool be governed by rules presently applicable to the Fowler-Blinebry Pool.
- CASE 4316: (Continued from February 25, 1970, Examiner Hearing)
Application of Pan American Petroleum Corporation for an un-orthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 104 C 11 to permit the drilling of a well at an un-orthodox gas well location 330 feet from the North and East lines of Section 11, Township 23 South, Range 26 East, South Carlsbad-Strawn, Atoka, and Morrow Gas Pools, Eddy County, New Mexico. The N/2 of said Section 11 to be dedicated to the well.



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

March 12, 1969

GOVERNOR
DAVID F. CARGO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMijo
MEMBER

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

Mr. John Russell,
Attorney at Law
Post Office Box 640
Roswell, New Mexico 88201

Re: Case No. 4069
Order No. R-3701
Applicant:
Union Oil Company of California

DOCKET MAILED

Dear Sir:

Date 2-19-70

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC

Other

LAW OFFICES OF
JOHN F. RUSSELL
412 HINKLE BUILDING
P. O. DRAWER 640
ROSWELL, NEW MEXICO 88201

TELEPHONE 622-4641
AREA CODE 505

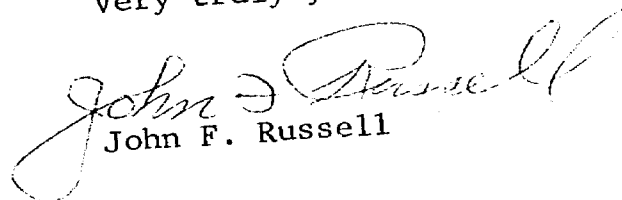
February 10, 1969

Mr. Dan Nutter
New Mexico Oil Conservation Commission
State Land Office
Santa Fe, New Mexico 87501

Dear Dan:

I enclose herewith a copy of the Contour Map covering the area of Union Oil Company of California's Midway State Well located in Section 12, Township 17S, Range 36E, Lea County, New Mexico.

Very truly yours,


John F. Russell

JFR/jcg

Enclosure

DOCKET EXAMINER HEARING - WEDNESDAY - FEBRUARY 26, 1969

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

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

- CASE 4052:** Application of Mobil Oil Corporation for a pool creation and discovery allowable, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks the creation of the Lightcap-Pennsylvanian Pool in Chaves County, New Mexico, comprising the NE/4 NE/4 of Section 7, Township 8 South, Range 30 East, and for the assignment of approximately 35,650 barrels of oil discovery allowable to the discovery well, its O. L. O'Brien Well No. 1 located in Unit A of said Section 7.
- CASE 4036:** (Continued from the February 5, 1969, Examiner Hearing) Application of Mobil Oil Corporation for a dual completion, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its O. L. O'Brien Well No. 1 located in Unit A of Section 7, Township 8 South, Range 30 East, Chaves County, New Mexico, to produce oil from an undesignated Pennsylvanian oil pool and the Lightcap (Devonian) Pool through parallel strings of tubing.
- CASE 4053:** Application of El Paso Products Company for special pool rules, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special rules for the Gallegos-Gallup Pool, San Juan County, New Mexico, including provisions for the classification of oil and gas wells, 80-acre spacing for oil wells, and 320-acre spacing for gas wells.
- CASE 4054:** Application of Anasada Petroleum Corporation for an unorthodox oil well location and amendment to Order No. R-2133, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a producing oil well at an unorthodox location 1250 feet from the West line and 2220 feet from the South line of Section 28, Township 24 South, Range 37 East, in its Langlie-Mattix Workover Unit Waterflood Project, Langlie-Mattix Pool, Lea County, New Mexico. Applicant also seeks the amendment of Order No. R-2197, which order authorized said waterflood project, to establish an administrative procedure whereby said project could be expanded to include additional lands and injection wells and producing wells at orthodox and unorthodox locations as may be necessary to complete an efficient injection and producing pattern without the necessity of showing well response.

- CASE 4055: Application of Albert Gackle for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers formation in the open-hole interval from approximately 3290 feet to 3620 feet in his George Etz Well No. 3 located in Unit N of Section 27, Township 23 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.
- CASE 4056: Application of Albert Gackle for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Lower Queen formation in the perforated interval from approximately 3642 feet to 3699 feet in his Sinclair "A" State Well No. 5 located in Unit I of Section 23, Township 23 South, Range 36 East, Langlie-Mattix Pool, Lea County, New Mexico.
- CASE 4057: Application of Charles B. Read for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special rules for the Quail-Queen Pool, Lea County, New Mexico, including a provision for 80-acre spacing and proration units.
- CASE 4058: Application of Hiram W. Keith and Dalton Haines for salt water disposal, Lea County, New Mexico. Applicants, in the above-styled cause, seek authority to dispose of produced salt water into the Seven Rivers formation in the open-hole interval from approximately 3874 feet to 3951 feet in their State Well No. 2 located in Unit K of Section 16, Township 21 South, Range 34 East, West Wilson Pool, Lea County, New Mexico.
- CASE 4059: Application of Hiram W. Keith and Dalton Haines for salt water disposal, Eddy County, New Mexico. Applicants, in the above-styled cause, seek authority to dispose of produced salt water into the Delaware formation in the open-hole interval from approximately 4030 feet to 4158 feet in their Eddy "AGA" State Well No. 2 located 660 feet from the North line and 1650 feet from the West line of Section 36, Township 26 South, Range 31 East, North Mason-Delaware Pool, Eddy County, New Mexico.
- CASE 4060: Application of Sidney Lanier for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates-Seven Rivers formations in the open-hole interval from approximately 3402 feet to 3650 feet in his I. B. Ogg "A" Well No. 5 located in Unit J of Section 35, Township 24 South,

(Case 4060 continued)

Range 36 East, Jalmat Yates-Seven Rivers Pool, Lea County, New Mexico.

CASE 4061: Application of Millard Deck 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 Seven Rivers and Queen formations in the open-hole interval from approximately 3752 feet to 3872 feet in its Atha Well No. 1 located in Unit M of Section 31, Township 21 South, Range 36 East, South Eunice Pool, Lea County, New Mexico.

CASE 4062: Application of Kersey & Company for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Queen formation in the perforated interval from approximately 1835 feet to 1870 feet in the Bass Well No. 3 located in Unit F of Section 12, Township 19 South, Range 28 East, East Millman Queen-Grayburg Pool, Eddy County, New Mexico.

CASE 4063: Application of Kerr-McGee Corporation for the creation of a new gas pool and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new pool for the production of gas from the Morrow formation by its Nix Well No. 1 located in Unit L of Section 11, Township 19 South, Range 26 East, Eddy County, New Mexico, and for the promulgation of special pool rules therefor, including a provision for 640-acre spacing.

CASE 4064: Application of Atlantic Richfield Company 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 4207 feet to 4286 feet in its Tucker Well No. 4 located in Unit O of Section 23, Township 7 South, Range 32 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.

CASE 4065: Application of Humble Oil & Refining Company for an unorthodox oil well location and reclassification of a water well to an oil well, Lea County, New Mexico. Applicant, in the above-styled cause, seeks to have its New Mexico State "S" Water Source Well No. 4 (CP-427), located at an unorthodox oil well location 650 feet from the West line and 175 feet from the

South line of Section 2, Township 22 South, Range 37 East, Lea County, New Mexico, reclassified as an oil well for the production of oil an undesignated San Andres Oil Pool and authority to produce same as an oil well.

- CASE 4066: Application of Humble Oil & Refining Company for the consolidation of two non-standard gas proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the consolidation of two existing non-standard 320-acre gas proration units into one standard 640-acre unit comprising all of Section 26, Township 21 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to be dedicated to its New Mexico State "G" Wells Nos. 2 and 4 located in Units P and G, respectively, of said Section 26. Applicant further seeks authority to produce the allowable assigned to said unit from either of said wells in any proportion.
- CASE 4067: Application of Benson-Montin-Greer Drilling Corporation for special pool rules, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the La Plata-Gallup Pool, San Juan County, New Mexico, including a provision for 160-acre spacing and proration units. Applicant further requests that said special rules provide that the unit allowable for a 160-acre unit in said pool be allocated on the basis of four times the normal unit allowable for Northwest New Mexico, and that no credit be given for depth factors. Applicant further requests that said special rules be limited in their application to the exterior boundaries of the La Plata-Mancos Unit Area.
- CASE 4068: Application of Martin Yates III for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Delaware formation in its Yates & Hanson McCord Well No. 1 located in Unit E of Section 22, Township 23 South, Range 26 East, Dark Canyon Field, Eddy County, New Mexico. Applicant further seeks a procedure whereby its Cordie King Well No. 2 located in Unit K of said Section 22 may be approved for the disposal of salt water without the requirement of notice and hearing.

CASE 4045: (Continued from the February 5, 1969 Examiner Hearing)
Application of H & S Oil Company for an amendment to Order No. R-3357, as amended by Order No. R-3357-A, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3357, as amended by Order No. R-3357-A, which order authorized the H & S West Artesia Unit Unit Waterflood Project. Applicant proposes to substitute the Roach Drilling Company-Leonard Well No. 18 located in Unit D of Section 17 as a water injection well in said project in lieu of the Cities Service-Mell Well No. 17 located in Unit M of Section 8, both in Township 18 South, Range 28 East, Artesia Pool, Eddy County, New Mexico.

CASE 4069: Application of Union Oil Company of California for the creation of a new pool, assignment of discovery allowable, and the promulgation of special pool rules, Lea County, New Mexico.

Applicant, in the above-styled cause, seeks the creation of a new Devonian oil pool for its Midway State Well No. 1 located in Unit F of Section 12, Township 17 South, Range 36 East, Lea County, New Mexico, and for the assignment of an oil discovery allowable in the amount of approximately 57,380 barrels to said well. Applicant further seeks the promulgation of special pool rules for said pool, including a provision for 80-acre proration units.

CASE 4070: Application of C. E. LaRue and B. N. Muncy, Jr., for salt water disposal, Lea County, New Mexico. Applicants, in the above-styled cause, seek authority to dispose of produced salt water into the salt and Yates formations in the open-hole interval from approximately 1254 feet to 3000 feet in the La Rue-Muncy John "B" Well No. 2 located in Unit A of Section 35, Township 17, South, Range 32, East, Maljamar Grayburg-San Andres Pool, Lea County, New Mexico.

TT 11

TELETYPE - TELEGRAM

Date February 25, 1969

Signed by

Time

Dept. Production

27 AM 3 27
69 FEB
Co. Cities Service Oil

A. L. Porter, Jr., Secretary
New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico

Regarding Case No. 4069 Application of Union Oil Company of California for creation of new pool, assignment of discovery allowable and promulgation of special field rules. Cities Service Oil Company as working interest owner recommends approval of this application as a worthy conservation measure.

R. E. Adams
Proration Coordinator

Confirmation Copy

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL
CHAIRMAN OF THE BOARD

R. W. McFALL
PRESIDENT

SYMBOLS

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

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

LA003 DA592

1969 FEB 25 AM 7 41

D LLC254 LE NL PDB (RESEND)=MF DALLAS TEX 24=

OIL CONSERVATION COMMISSION=

SANTA FE NMEX=

REFERENCE IS HEREBY MADE TO CASE #4069 SCHEDULED FOR
9:00 A.M. FEBRUARY 26TH PRESENTED BY UNION OIL OF
CALIFORNIA REGARDING FIELD RULES FOR MIDWAY DEVONIAN
FIELD, LEA COUNTY, NEW MEXICO. THIS TELEGRAM WILL
EVIDENCE THE SUPPORT OF THE ESTATE OF WM. D. MCBEE AS
AN OPERATOR IN THE FIELD. OUR INTEREST IS 7.32908-0/0=

W D MCBEE JR=

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION

TELEGRAM

W. P. MARSHALL
CHAIRMAN OF THE BOARD

R. (20).

SYMBOLS

DL = Day Letter

NL = Night Letter

LT = International Letter Telegram

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

LA082 DA151

1969 FEB 24 AM 11 32

D DRA012 PDB=DR DALLAS TEX 24 1217P CDT=

~~CORP COMMISSION=~~

OIL CONSERVATION COMMISSION

1-29 SANTA FE NMEX=

REFERENCE IS HEREBY MADE TO CASE (44069) SCHEDULED FOR
900 AM FEBRUARY 26TH PRESENTED BY UNION OIL OF
CALIFORNIA REGARDING FIELD RULES FOR MIDWAY DEVONIAN
FIELD LEA COUNTY NEW MEXICO. THIS TELEGRAM WILL EVIDENCE
OUR SUPPORT AS AN OFFSET OPERATOR AS WELL AS A WORKING
INTEREST PARTICIPANT=

W D MCBEE JR=

1137
1969 FEB 24 AM 11 35

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL
CHAIRMAN OF THE BOARD

R. W. MCFALL
PRESIDENT

SYMBOLS

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

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

LA107 KD182

K BRA055 HM PDB=WUX BARTLESVILLE OKLA 25 1249P CST=

A L PORTER JR=

SECRETARY NEW MEXICO OIL CONSERVATION COMMISSION
STATE LAND OFFICE BLDG SANTA FE NMEX=

REGARDING CASE NO 4069 APPLICATION OF UNION OIL COMPANY
OF CALIFORNIA FOR CREATION OF NEW POOL, ASSIGNMENT OF
ALLOWABLE AND PROMULGATION OF SPECIAL FIVLD RULES.
CITIES SERVICE OIL COMPANY AS OWRKING INTEREST OWNER
RECOMMENDS APPROVAL OF THIS APPLICATION AS A WORTHY
CONSERVATION MEASURE=

R E ADAMS PRORATION COORDINATOR PRODUCTION DEPARTMENT
CITIESERVICE OIL COMPANY BARTLESVILLE OKLA

WUI201(R2-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLAS. OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION

TELEGRAM

W. P. MARSHALL
CHAIRMAN OF THE BOARD

R. W. MCFALL
PRESIDENT

SYMBOLS

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

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

TIME at point of destination

LA037 NSB020

1969 FEB 25 AM 8 04

NS FWB006 HN PDB 5 EXTRA=FAX FORT WORTH TEX 25 839A CST=
NEW MEXICO OIL CONSERVATION COMMISSION=
PO BOX 871 SANTA FE NMEX=

IT IS OUR UNDERSTANDING THAT UNION OIL COMPANY OF CALIFORNIA HAS SCHEDULED A HEARING ON FEBRUARY 26, 1969 TO CONSIDER NEW FIELD DESIGNATION AND DISCOVERY ALLOWABLE AND ADOPTION OF SPECIAL POOL RULES FOR THEIR NO. 1 MIDWAY STATE WELL, UNIT F, SECTION 12, T17S, R36E, LEA COUNTY, NEW MEXICO. PAN AMERICAN SUPPORTS UNION IN THEIR PROPOSED RULES, INCLUDING 80 ACRE SPACING WITH THE N/2, E/2, W/2 OR S/2 OF EACH QUARTER SECTION AS THE

WU1201(R2-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE
This is a fast message
unless its deferred char-
acter is indicated by the
proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL
CHAIRMAN OF THE BOARD

R. W. MCFALL
PRESIDENT

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

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

DESIGNATED UNIT. WE ALSO SUPPORT THEIR LOCATION
PROVISIONS PROVIDING FOR LOCATION 150' FROM CENTER OF
ANY QUARTER-QUARTER SECTION=
D L RAY - DIVISION ENGINEER - PAN AMERICAN PETROLEUM
CORPORATION FORT WORTH, TEXAS=

=26 1969 1 F 12 T17S R36E 80 N/2 E/2 W/2 S/2 150'=
WU1201 (R2-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

Feb 26, 1969

Statement for Amerada Petroleum Corporation
in Case 4069 on Feb 26, 1969

Amerada Petroleum Corporation has a working interest in the two wells drilled by Union Oil of California in the Midway-Devonian Oil Pool. Amerada supports the application of Union Oil of California in Case 4069 to have discovery oil allowable assigned and to create special pool rules providing for 80 acre oil spacing.

R. L. Hocker.

Case 4069

Heard. 2-26-69

Grant Union of Cal. ~~permission~~
request for a new pool
to be called Lovington-Devonian
Oil pool. The discovery well is
their Midway St. #1 2310/ N + W
12-175-36 E. Top of perp. 11,476
Bottom 11,520.

Grant 80 Ac. spacing on temp.
rules. 150' from center off
either 44.

Also. R2872 attached for
Model order.

11,476 Depth factor = 6.67 - 88 Ac.

Thos. L. [Signature]

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. 3204
Order No. R-2872
NOMENCLATURE

APPLICATION OF UNION OIL COMPANY
OF CALIFORNIA FOR THE CREATION OF
A NEW OIL POOL AND FOR SPECIAL POOL
RULES, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on February 10, 1965, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 5th day of March, 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, Union Oil Company of California, seeks the creation of a new oil pool for Wolfcamp production and the promulgation of temporary special rules and regulations governing said pool, including a provision for 80-acre spacing.

(3) That the applicant's State Well No. 1-7 located in Unit D of Section 7, Township 15 South, Range 35 East, NMPM, Lea County, New Mexico, has discovered a separate common source of supply which should be designated the Morton-Lower Wolfcamp Pool; that the vertical limits of said pool should be the zone encountered in said well between 10,182 and 10,670 feet; and that the horizontal limits of said pool should be the NW/4 of Section 7, Township 15 South, Range 35 East and the NE/4 of Section 12, Township 15 South, Range 34 East, NMPM, Lea County, New Mexico.

(4) That said separate common source of supply has previously been designated the Morton Permo-Pennsylvanian Pool and redesignated the Morton-Pennsylvanian Pool; that the Morton-Pennsylvanian Pool should be abolished and a new pool created as set out above.

(5) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 80-acre spacing units should be promulgated for the Morton-Lower Wolfcamp Pool.

(6) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(7) That the temporary special rules and regulations should be established for a one-year period in order to allow the operators in the subject pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(8) That this case should be reopened at an examiner hearing in March, 1966, at which time the operators in the subject pool should be prepared to appear and show cause why the Morton-Lower Wolfcamp Pool should not be developed on 40-acre spacing units.

IT IS THEREFORE ORDERED:

(1) That the Morton-Pennsylvanian Pool in Lea County, New Mexico, is hereby abolished.

(2) That a new pool in Lea County, New Mexico, classified as an oil pool for Lower Wolfcamp production is hereby created and designated the Morton-Lower Wolfcamp Pool, with vertical limits comprising the zone encountered between 10,182 and 10,670 feet in the Union Oil Company of California State Well No. 1-7 located in Unit D of Section 7, Township 15 South, Range 35 East, NMPM, Lea County, New Mexico, and horizontal limits comprising the NW/4 of Section 7, Township 15 South, Range 35 East and the NE/4 of Section 12, Township 15 South, Range 34 East, NMPM, Lea County, New Mexico.

-3-

CASE No. 3204

Order No. R-2872

(3) That temporary Special Rules and Regulations for the Morton-Lower Wolfcamp Pool are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
MORTON-LOWER WOLFCAMP POOL

RULE 1. Each well completed or recompleted in the Morton-Lower Wolfcamp Pool or in the Lower Wolfcamp formation within one mile thereof, and not nearer to or within the limits of another designated Lower Wolfcamp pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 80 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a governmental quarter section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit comprising a governmental quarter-quarter section or lot. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well shall be located within 150 feet of the center of a governmental quarter-quarter section or lot.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all

-4-

CASE No. 3204
Order No. R-2872

offset operators or if no offset operator has entered an objection to the unorthodox location within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (79 through 81 acres) shall be assigned an 80-acre proportional factor of 5.67 for allowable purposes, and in the event there is more than one well on an 80-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 80 acres.

IT IS FURTHER ORDERED:

(1) That any well presently drilling to or completed in the Morton-Lower Wolfcamp Pool or in the Lower Wolfcamp formation within one mile thereof that will not comply with the well location requirements of Rule 4 is hereby granted an exception to the requirements of said rule. The operator shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before April 1, 1965.

(2) That each well presently drilling to or completed in the Morton-Lower Wolfcamp Pool or in the Lower Wolfcamp formation within one mile thereof shall receive a 40-acre allowable until a Form C-102 dedicating 80 acres to the well has been filed with the Commission.

(3) That this case shall be reopened at an examiner hearing in March, 1966, at which time the operators in the subject pool may appear and show cause why the Morton-Lower Wolfcamp Pool should not be developed on 40-acre spacing units.

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

-5-

CASE No. 3204

Order No. R-2872

DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JACK M. CAMPBELL, Chairman

GUYTON B. HAYS, Member

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

S E A L

esr/

LOVINGTON DEVONIAN POOL
LEA COUNTY, NEW MEXICO
(CASE NO. 4069 - REOPENED)
March 4, 1970

BEFORE EXAMINER NUTTER

C. P. CONSERVATION COMMISSION

ifym EXHIBIT NO. 3
CASE NO. 4069 3/4/70

Status of Reservoir Development

The Union Oil Company of California No. 1 Midway State well was completed December 23, 1968 from perforations 11,476' to 11,520' flowing 538 BOPD on 1/2" choke with 65 psi tubing pressure and GOR of 170 SCF/Bbl. Cumulative production to 1-1-70 is 133,973 barrels of oil and 16,264 MCF gas. Current production is approximately 316 BOPD and 6 BWPD by flowing. Estimated ultimate primary recovery is approximately 440,000 barrels oil.

The Union Oil Company of California No. 2 Midway State well was completed February 21, 1969 from perforations 11,518' to 11,522' flowing 351 BOPD and 19 BWPD on 1/2" choke with 40 psi tubing pressure and GOR of 197 SCF/Bbl. Cumulative production to 1-1-70 is 42,229 barrels of oil and 7,511 MCF gas. Current production is approximately 100 BOPD and 124 BWPD by pumping. Estimated ultimate primary recovery is approximately 93,000 barrels oil.

The Union Oil Company of California No. 3 Midway State well was drilled to TD of 11,637' and temporarily abandoned April 23, 1969. The well was re-completed as a salt water disposal well January 18, 1970 with injection into the Yates and San Andres formations from 4450' to 6068' open hole.

The Union Oil Company of California No. 4 Midway State well was drilled to TD of 11,697' and temporarily abandoned July 13, 1969.

Reservoir and Fluid Properties

A. Oil and Gas Properties

1. Oil Gravity - 49° API @ 60°F
2. Solution Gas Oil Ratio - 135 Cubic Feet/Barrel
3. Gas Gravity - 0.919
4. Gas Analysis

<u>Component</u>	<u>Mol.%</u>	<u>G.P.M.</u>
CO ₂	5.87	
N	2.30	
C ₁	66.32	
C ₂	7.16	
C ₃	7.52	2.064
IC ₄	2.15	0.701
NC ₄	4.19	1.317
IC ₅	1.39	0.507
NC ₅	1.32	0.477
C ₆ ⁺	1.78	0.760
TOTAL	100.00	5.826

*changed from
170 at last time*

*done as
part of work*

5. Hydrogen Sulfide in Gas - 250+ grains per 100 cu.ft. *Change*

6. Estimated Formation Volume Factor - 1.13 *changed from 1.15*

B. Reservoir Properties

1. Average Net Pay Thickness - 76 feet *94' at last log*

2. Average Porosity - 6.2%

3. Average Permeability - 12.5 md.

4. Estimated Connate Water Saturation - 35%

5. Reservoir Temperature - 188°F

6. Original Bottom Hole Pressure - 4490 psig @ 7664 feet subsea

7. Estimated Recovery Factor - 25%

8. Assumed Water Oil Contact - 7770 feet subsea *7780 at last log*

9. Productivity Index of Midway State No. 1 - 0.5 BOPD/psi

Reserve Calculation

Recoverable Oil, Bbls/Acre Foot = $\frac{(7758)(0.062)(0.65)(0.25)}{1.13}$

= 69 Bbl/Acre Foot *68 at last log*

= 5244 Bbl/Acre *6390 at last log*

= 420,000 Bbl/80 Acres *511,600 at last log*

= 210,000 Bbl/40 Acres *255,400 at last log*

Economics

A. Oil and Gas Price

1. Gross Oil Price - \$3.31/Bbl *2.16 at last log*

2. Gross Gas Price - \$0.09/MCF *.10*

3. Royalty - 12.5%

4. State Taxes - 6.16% of value

B. Direct Operating Cost

\$100/month per well while flowing *200 at last log*

\$600/month per well at initiation of pumping, increasing to

~~\$200~~/month per well at abandonment.

~~\$150~~

C. Economic Limit

$$E.L. = \frac{\$2000}{(\$3.31)(0.875)(0.9384)(30.4)} = 24.2 \text{ BOPD}$$

Assume 30.4 average days per month and no gas sales at abandonment.

D. Average Well Cost

1. Total cost of completed well - \$250,000 including proportionate share of battery with salt water disposal facilities.
2. Total cost of pumping facilities - \$40,000 per well
3. Dry hole cost - \$151,000.

E. Estimated Profit After Federal Income Taxes

	<u>40 Acre Well</u>	<u>80 Acre Well</u>
Net Profit, \$	149,919	494,504
Present Worth @ 5%, \$	131,595	436,644
@ 8%, \$	121,584	406,568
@ 10%, \$	115,273	388,150
@ 20%, \$	87,437	311,641
Rate of Return	72%	100+%
Profitability Index	.46	1.55
Payout, Years	1.0	0.8

PRODUCTION SUMMARY
LOVINGTON DEVONIAN POOL
LEA COUNTY, NEW MEXICO

MONTH	MIDWAY STATE NO. 1				MIDWAY STATE NO. 2			
	MONTHLY OIL PROD. BBL.	DAYS PRODUCED	DAILY AVERAGE PROD. BOPD	MONTHLY GAS PROD. MCF	MONTHLY OIL PROD. BBL.	DAYS PRODUCED	DAILY AVERAGE PROD. BOPD	MONTHLY GAS PROD. MCF
1968 Dec.	3,519	8	440	598				
1969 Jan.	9,156	26	352	1,456				
Feb.	9,721	28	347	1,497	1,335	8	167	92
Mar.	10,376	29	358	1,025	3,291	21	157	492
Apr.	11,855	30	395	1,058	1,905	27	71	476
May	12,233	31	395	1,388	4,492	23	195	624
Jun.	11,104	30	370	1,399	6,582	30	219	1,006
Jul.	11,085	31	358	1,430	5,190	30	173	709
Aug.	10,718	31	346	1,359	4,474	31	144	1,029
Sep.	11,070	30	369	1,185	4,391	30	146	1,024
Oct.	11,889	31	384	1,480	3,750	31	121	800
Nov.	11,010	30	367	1,425	3,612	30	120	717
Dec.	<u>10,237</u>	31	330	<u>964</u>	<u>3,207</u>	31	103	<u>542</u>
TOTAL	133,973			16,264	42,229			7,511

CUMULATIVE POOL PRODUCTION TO 1-1-70 = 176,202 BO and 23,775 MCF gas
POOL GOR = 135 SCF/BO

LO 3-2025

1210 North Texas Ave.
Odessa, Texas

TOM HANSEN COMPANY, INC.

COMPANY Union Oil Co. of California FIELD Wildcat
 LEASE Midway State WELL 1 COUNTY Lea STATE New Mexico
 DATE 1/13-18/69 FORMATION Devonian

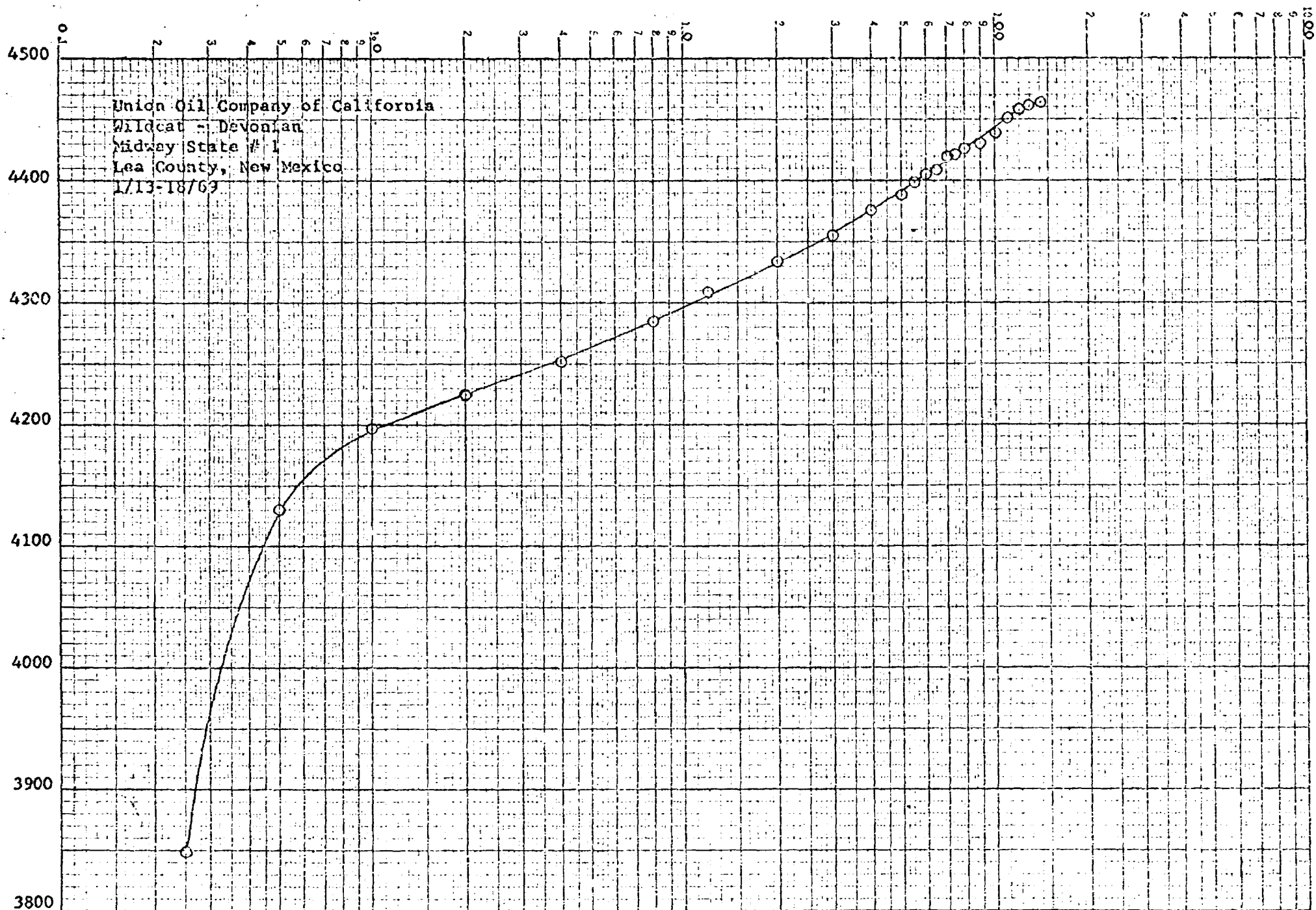
CHRONOLOGICAL DATA

Date	Time	Well Status	Elapsed Time Hrs-Min.	$\frac{T + \Delta T}{\Delta T}$	Oil BOPD	Tbg. Press.	BHP @ R. D. 11,350'	BHP @ M. P. 11,498'
1-13-69	08:30	Arrived on location - ran flowing gradient			463	71	3507	3556
	11:30	Instrument on bottom	00 - 00			71	3507	3556
	12:30		01 - 00			71	3490	3539
	12:30		02 - 00					
	13:30	Shut in well	00 - 00				3798	3848
	13:45		00 - 15	1421.0			4085	4130
	14:00		00 - 30	711.0			4147	4197
	14:30		01 - 00	356.0			4175	4225
	15:30		02 - 00	178.5			4202	4252
	17:30		04 - 00	89.8			4235	4285
	21:30		08 - 00	45.4			4259	4309
1-14-69	01:30		12 - 00	30.6			4284	4334
	09:30		20 - 00	18.8			4305	4355
	19:30		30 - 00	12.8			4326	4376
1-15-69	05:30		40 - 00	9.9			4339	4389
	15:30		50 - 00	8.1			4348	4398
	20:30		55 - 00	7.5			4355	4405
1-16-69	01:30		60 - 00	6.9			4359	4409
	06:30		65 - 00	6.5				
	09:00	Pulled bomb & ran gradient traverse	67 - 30	6.3		690	4363	4413
	12:00	Back on bottom	70 - 30	6.0			4370	4420
	16:30		75 - 00	5.7			4372	4422
	21:30		80 - 00	5.4			4376	4426
1-17-69	07:30		80 - 00	5.4			4381	4431
	17:30		90 - 00	4.9			4389	4439
	03:30		100 - 00	4.6			4402	4452
1-18-69	13:30		110 - 00	4.2			4408	4458
	23:30		120 - 00	4.0			4311	4461
1-19-69	12:30		130 - 00	3.7			4414	4464
			143 - 00	3.5				

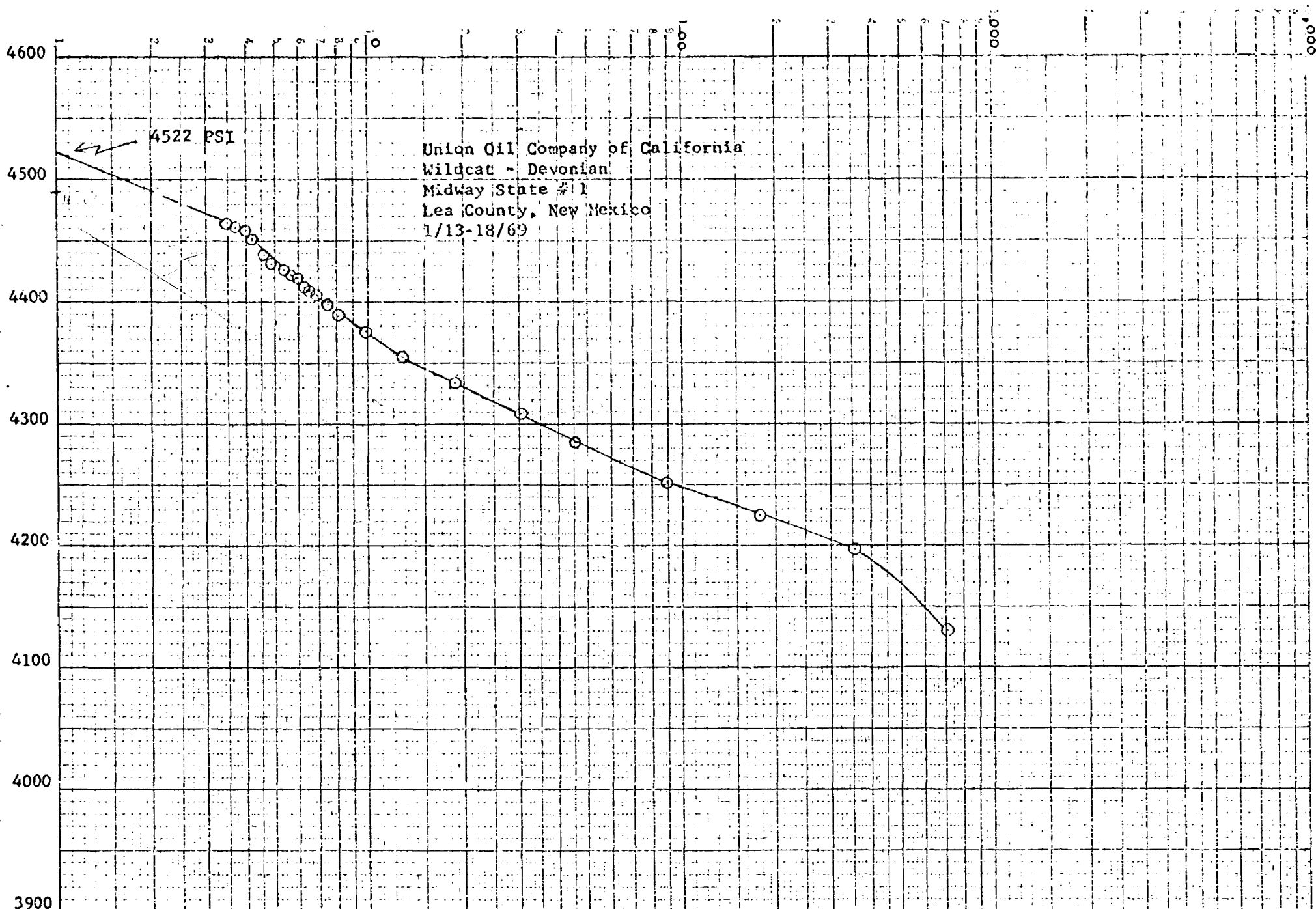
Total Accumulative Production: 6840 Bbls.
 Daily Rate: 463
 T = 355 (hours)

BENCH MARKED
 4069

SEMI-LOGARITHMIC 46 6013
 4 CYCLES X 10 DIVISIONS MINOR L.S.C.
 KEUFFEL & ESSER CO.



LOG CUMULATIVE SHUT IN TIME: HOURS



$T + \Delta T$

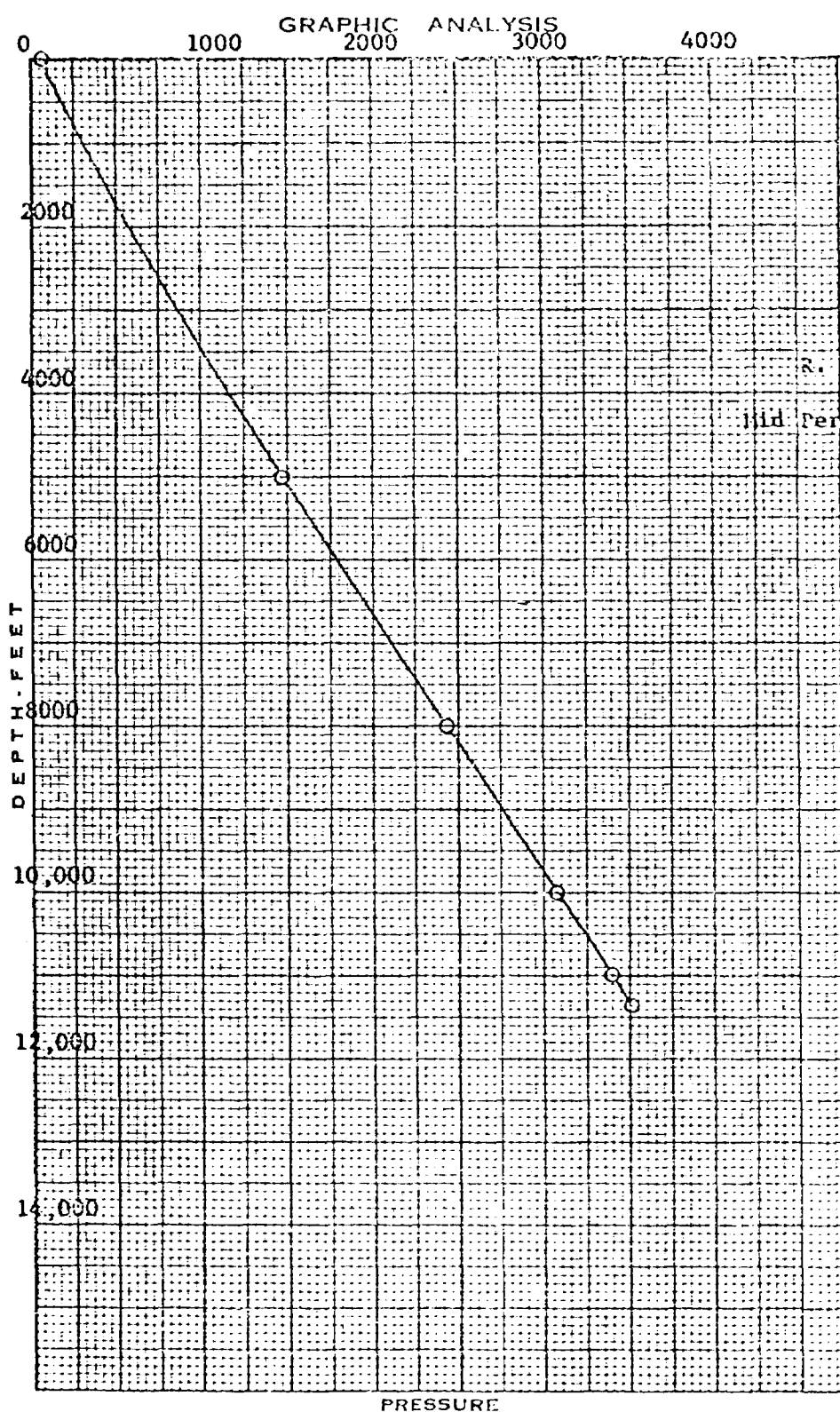
MIDLAND, TEXAS
LO 3-2025



ODESSA, TEXAS
LO 3-2025

INDIVIDUAL WELL DATA SHEET

Company Union Oil Co. of California Lease Midway State Well No. 1
Field Wildcat (Devonian) County Lea State New Mexico
Test Date 1-13-69 Time 08:00 Status of Well Flowing Shut In

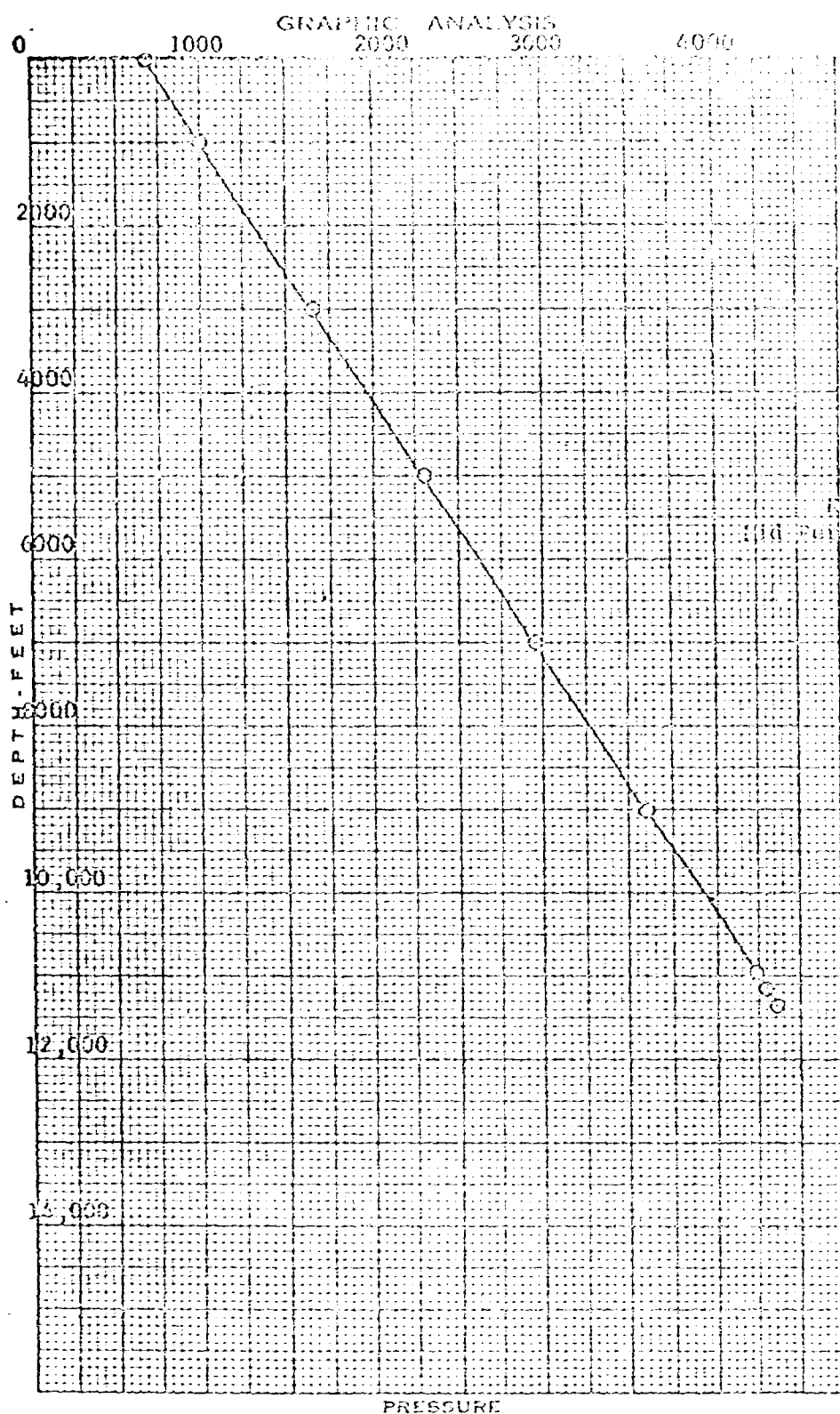


Depth Feet	Pressure Lbs. Sq. In.	*Gradient Lbs./Ft.
10	71	
5000	1475	.281
8000	2439	.321
10,000	3079	.320
11,000	3390	.311
R. D. - 11,350	3507	.334
Mid Perf. - 11,498	3556	(.334)
Elev.-D.F. Gr. 3818		
Pressure Datum Mid Perf.		
Top of Pay		
Tubing 2 3/8	Depth 11,530	
B.H.C.	Packer 11,405	
Casing 5 1/2	Depth	
Perf. 11,476-11,520		
Total Depth		
Formation Devonian		
Casing Press.		
Tubing Press. 71		
Top of Fluid Flowing		
Top of Water		
Hrs. Shut In	Flowing	
Temp. @ 11,350	= 188 °F	
Last Test Date NPT		
Press. Last Test		
B.H.P. Change		
Gain-Loss, Day		
Instrument Amerada		
Number 21602-N	RPG 3	
Calibration No. @ F		
Run By Hadorn & Allman		
Calculated By Turner		

MIDLAND, TEXAS
LO 3-20.5

INDIVIDUAL WELL DATA SHEET

Company Union Oil Co. of California Loc. Midway State Well No. 1
Field Wildcat (Devonian) County Lee State New Mexico
Test Date 1-16-69 Time 12:00 Size of Well 8 1/2 Shut In 60 hours



Depth Feet	Pressure Lbs. Sq. In.	Gradient Lbs. Ft.
10	686	
1000	1001	.315
3000	1554	.326
5000	2306	.326
7000	2954	.324
9000	3611	.328
10,550	4233	.319
11,150	4300	.335
D. - 11,350	4367	.335
Mid Perf. - 11,498	4417	(.335)
Elev. D.F.		Gr. 3218
Pressure Datum	Mid Perf.	
Top of Pay		
Tubing	2 3/8	Depth 11,530
B.H.C.		Packer 11,405
Casing		Depth
Perf.	11,476-11,520	
Total Depth		
Formation	Devonian	
Casing Press.		
Tubing Press.	690 DWT	
Top of Fluid	Surface	
Top of Water	None	
Hrs. Shut In	68	Flowing
Temp. @ 11,350	= 188 °F	
Last Test Date	NPT	
Press. Last Test		
B.H.P. Change		
Gain-Loss Day		
Instrument	Amerada	
Number	21602-N	RPG 3
Calibration No.	@	°F
Run By	Allman	
Calculated By	Turner	

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

Page No. 1

Company UNION OIL COMPANY OF CALIFORNIA File WP-3-3106
 Well MIDWAY STATE NO. 1-12 Date 12-8-68
 Field WILDCAT Elevation _____
 County LEA State NEW MEXICO Drlg. Fluid WATER BASE MUD
 Location 2310 FN & WL SEC 12-T17S-R36E

Lithological Abbreviations

SAND-SS SHALE-SH LIME-LM	DOLOMITE-DOL CHERT-CHT GYPSUM-GYP	ANHYDRITE-ANHY CONGLOMERATE-CONG FOSSILIFEROUS-FO	SANDY-SOY SHALY-SHY LIMY-LMY	FINE-FN MEDIUM-MED COARSE-CRSE	CRYSTALLINE-XLN GRAIN-GN GRANULAR-GNR	BROWN-BRN GRAY-GRY VUGGY-VGY	FRACTURED-FRAC LAMINATED-LAM STYLOLITIC-STYC	SLIGHTLY-SL/ VERY-V/ WITH-W/
SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS		POROSITY PERCENT	RESIDUAL SATURATION PERCENT PORE		DESCRIPTION	
		MAX	90°		OIL	WATER		

WHOLE-CORE ANALYSIS

CORE NO. 1 11444-11499								
1	11444.0-45.4	2.1	1.3	5.9	11.4	45.3	DOL, VGY	
2	45.4-47.1	4.0	1.8	8.6	9.6	52.2	DOL, VGY	
3	47.1-48.6	3.0	2.6	7.2	16.0	44.8	DOL, SL/VGY	
4	48.6-50.1	4.1	3.4	8.9	14.0	48.0	DOL, SL/VGY	
5	50.1-51.7	22	17	7.1	14.0	33.3	DOL, VGY	
6	51.7-53.4	14	5.9	8.3	15.6	41.7	DOL, VGY	
7	53.4-55.0	11	6.5	5.9	15.0	31.4	DOL, VGY	
8	55.0-56.4	2.4	<0.1	6.4	11.4	52.0	DOL, FRAC	
9	56.4-58.2	0.8	0.2	4.4	11.4	50.8	DOL, VGY	
10	58.2-59.5	2.1	1.8	3.4	8.7	33.5	DOL, VGY	
11	59.5-61.0	0.7	0.3	3.0	6.3	43.8	DOL, VGY	
12	61.0-62.5	<0.1	<0.1	0.5	0.0	80.0	LM	
13	62.5-64.0	2.2	0.6	2.9	9.3	54.2	DOL, SL/VGY	
14	64.0-65.2	21	17	7.7	8.6	30.5	DOL, SL/VGY	
15	65.2-66.3	14	13	5.2	9.5	36.9	DOL, SL/VGY	
16	66.3-67.8	<0.1	<0.1	0.7	0.0	91.2	DOL, SL/VGY	
17	67.8-69.5	35	29	6.8	8.0	48.2	FOL, VGY	
18	69.5-71.0	119	53	3.0	10.7	68.0	DOL, FRAC, VGY	
19	71.0-72.5	11	11	8.3	11.9	45.1	DOL, VGY	
20	72.5-74.0	61	23	9.5	10.8	50.8	DOL, VGY	
21	74.0-75.3	2.3	0.8	3.4	10.7	62.8	DOL, FRAC, SL/VGY	
22	75.3-77.0	113	0.2	3.1	14.5	58.3	DOL, FRAC, VGY	
23	77.0-78.5	0.8	<0.1	2.8	11.6	53.4	DOL, VGY, SL/FRAC	
24	78.5-80.3	156	127	5.4	9.2	40.2	DOL, VGY	
25	80.3-82.0	420	165	3.3	13.2	54.8	DOL, SL, VGY	
26	82.0-83.9	0.2	0.2	2.2	1.0	77.8	DOL, FRAC, SL/VGY	
27	83.9-85.5	0.2	0.2	3.0	11.9	61.0	DOL, VGY	
28	85.5-87.2	333	145	7.5	6.8	42.8	DOL, VGY	
29	87.2-88.5	4.6	1.3	6.1	9.6	41.0	DOL, VGY	
30	88.5-90.0	4.7	<0.1	3.9	12.2	40.0	DOL, VGY	
31	90.0-91.6	20	13	4.2	14.3	42.3	DOL, VGY	
32	91.6-93.0	0.8	0.4	4.6	6.7	46.0	DOL, VGY	

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

BEFORE EXAMINER USE
 OIL CONSERVATION COMMISSION
 EXHIBIT NO. 6
 CASE NO. 4069

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

Company UNION OIL COMPANY OF CALIFORNIA File WP-3-3106
 Well MIDWAY STATE NO. 1-12 Date 12-8-68
 Field WILDCAT Elevation _____
 County LEA State NEW MEXICO Drilg. Fluid WATER BASE MUD
 Location 2310 FN & WL SEC 12-T17S-R36E

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS		POROSITY PERCENT	RESIDUAL SATURATION PERCENT PORE		DESCRIPTION
		MAX	90°		OIL	WATER	
33	11493.0-94.5	1.2	0.8	3.8	20.5	39.5	DOL, VGY
34	94.5-96.2	374	213	7.2	9.5	46.0	DOL, VGY
35	96.2-98.0	*0.1	*0.1	2.6	9.1	84.5	DOL
CORE NO. 2 11500-11541							
36	11500.0-01.6	55	36	4.2	9.1	46.5	DOL, VGY
37	01.6-03.0	*0.2	*0.2	5.4	8.2	50.7	DOL, VGY
38	03.0-04.5	<0.1	<0.1	4.0	5.6	84.0	DOL, SL/VGY, SL/FRAC
39	04.5-06.0	0.2	<0.1	4.3	15.2	68.2	DOL, SL/VGY
40	06.0-07.4	0.7	0.4	4.0	14.2	54.8	DOL, SL/VGY
41	07.4-09.0	1.3	0.9	5.3	8.2	57.2	DOL, VGY
42	09.0-10.5	3.9	1.0	4.7	5.7	47.2	DOL, VGY
43	10.5-11.7	12	2.9	7.0	9.3	46.9	DOL, VGY
44	11.7-13.4	15	<0.1	4.1	25.5	45.2	DOL, FRAC, SL/VGY
45	13.4-15.0	0.1	<0.1	3.5	15.3	57.8	DOL, VGY
46	15.0-16.5	0.9	0.6	2.7	14.3	71.1	DOL, VGY
47	16.5-18.1	0.3	0.3	2.4	16.6	72.5	DOL, SL/VGY, SL/FRAC
48	18.1-19.7	16	3.1	7.7	5.1	56.8	DOL, VGY
49	19.7-20.7	9.4	5.2	9.0	8.4	48.5	DOL, VGY
50	20.7-22.1	1.2	0.8	2.0	11.8	52.8	DOL, SL/FRAC
51	22.1-23.6	3.1	2.6	2.3	27.3	43.1	DOL, SL/FRAC, SL/VGY
52	23.6-25.1	4.9	<0.1	2.3	22.6	47.0	DOL, FRAC
53	25.1-27.0	0.5	<0.1	3.3	9.1	66.2	DOL, FRAC
54	27.0-28.6	0.3	<0.1	2.6	48.5	20.8	DOL, FRAC
55	28.6-30.2	0.6	<0.1	2.8	21.0	43.2	DOL, FRAC
56	30.2-31.4	0.5	<0.1	2.5	25.7	52.8	DOL, FRAC, SL/VGY
57	31.4-32.8	0.1	0.1	2.1	29.2	33.5	DOL, SL/FRAC
58	32.8-34.3	0.1	0.1	3.2	21.3	46.5	DOL
59	34.3-36.0	0.3	0.2	5.5	10.9	25.7	DOL, SL/VGY
60	36.0-37.4	0.1	<0.1	4.1	29.9	12.1	DOL, SL/VGY
61	37.4-38.3	0.6	<0.1	2.1	21.5	58.2	DOL, FRAC, SL/VGY
62	38.3-40.0	0.3	<0.1	2.0	23.2	47.0	DOL, FRAC, SL/VGY
40.0-41.0 LOST CORE							

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

CORE LABORATORIES, INC.



Petroleum Reservoir Engineering

COMPANY UNION OIL CO. OF CALIFORNIA FIELD WILDCAT FILE WP-3-3106

WELL MIDWAY STATE NO. 1-12 COUNTY LEA DATE 12-8-68

LOCATION 2310 FN & WL SEC 12-T17S-R36E STATE NEW MEXICO ELEV. _____

CORE-GAMMA CORRELATION

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations and opinions expressed represent the best judgment of Core Laboratories, Inc. all errors and omissions excepted, but Core Laboratories, Inc. and its officers and employees assume no responsibility and make no warranty or representation as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or field in connection with which such report is used or relied upon.

VERTICAL SCALE: 5" = 100'

CORE-GAMMA SURFACE LOG

PATENT NO. 2686266

GAMMA RAY

RADIATION INCREASE →

COREGRAPH

TOTAL WATER

PERCENT TOTAL WATER

80 60 40 20 0

PERMEABILITY

MILLIDARCS

100 50 10 5 1 0.5 0.1

POROSITY

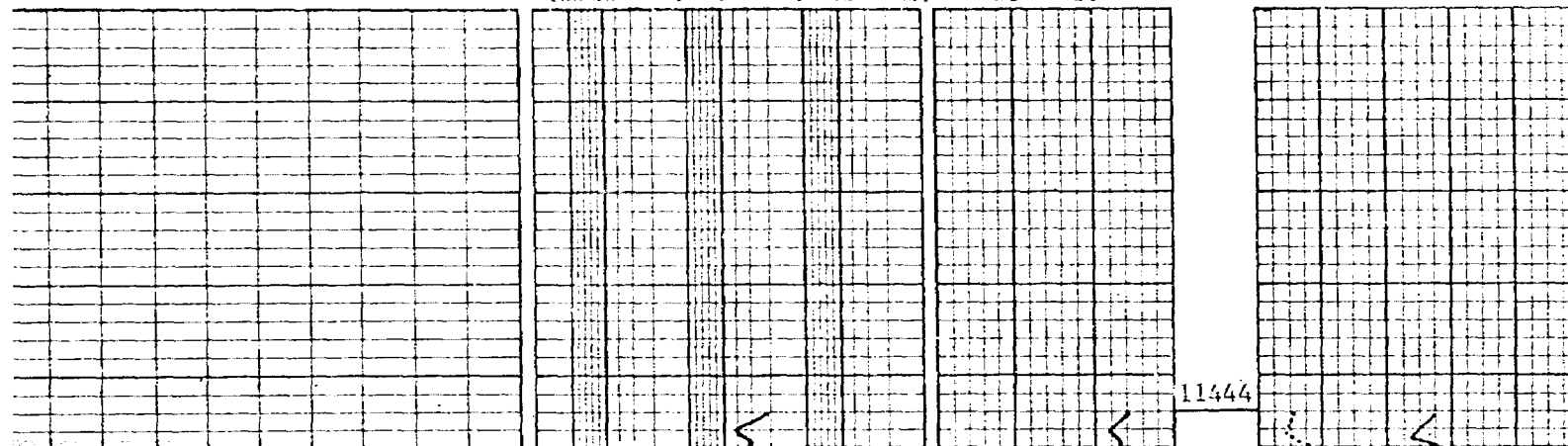
PERCENT

20 10

OIL SATURATION

PERCENT PORE SPACE

0 20 40 60 80



CORE LABORATORIES, INC.

WURK 43

Petroleum Reservoir Engineering

COMPANY UNION OIL CO. OF CALIFORNIA FIELD WILDCAT FILE WP-3-3106

WELL MIDWAY STATE NO. 1-12 COUNTY LEA DATE 12-8-68

LOCATION 2310 FN & WL SEC 12-T17S-R36E STATE NEW MEXICO ELEV.

CORE-GAMMA CORRELATION

These analyses, estimates or interpretations are based on observations and material received by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations and estimates expressed represent the best judgment of Core Laboratories, Inc. All errors and omissions excepted but Core Laboratories, Inc. and its officers and employees assume no responsibility and make no warranty or representation as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is made or relied upon.

VERTICAL SCALE: 5" = 100'

CORE-GAMMA SURFACE LOG

PATENT NO. 2685266

GAMMA RAY

RADIATION INCREASE

COREGRAPH

TOTAL WATER

PERCENT TOTAL WATER

80 60 40 20 0

PERMEABILITY

MILLIDARCYS

100 50 10 5 1 0.5 0.1

POROSITY

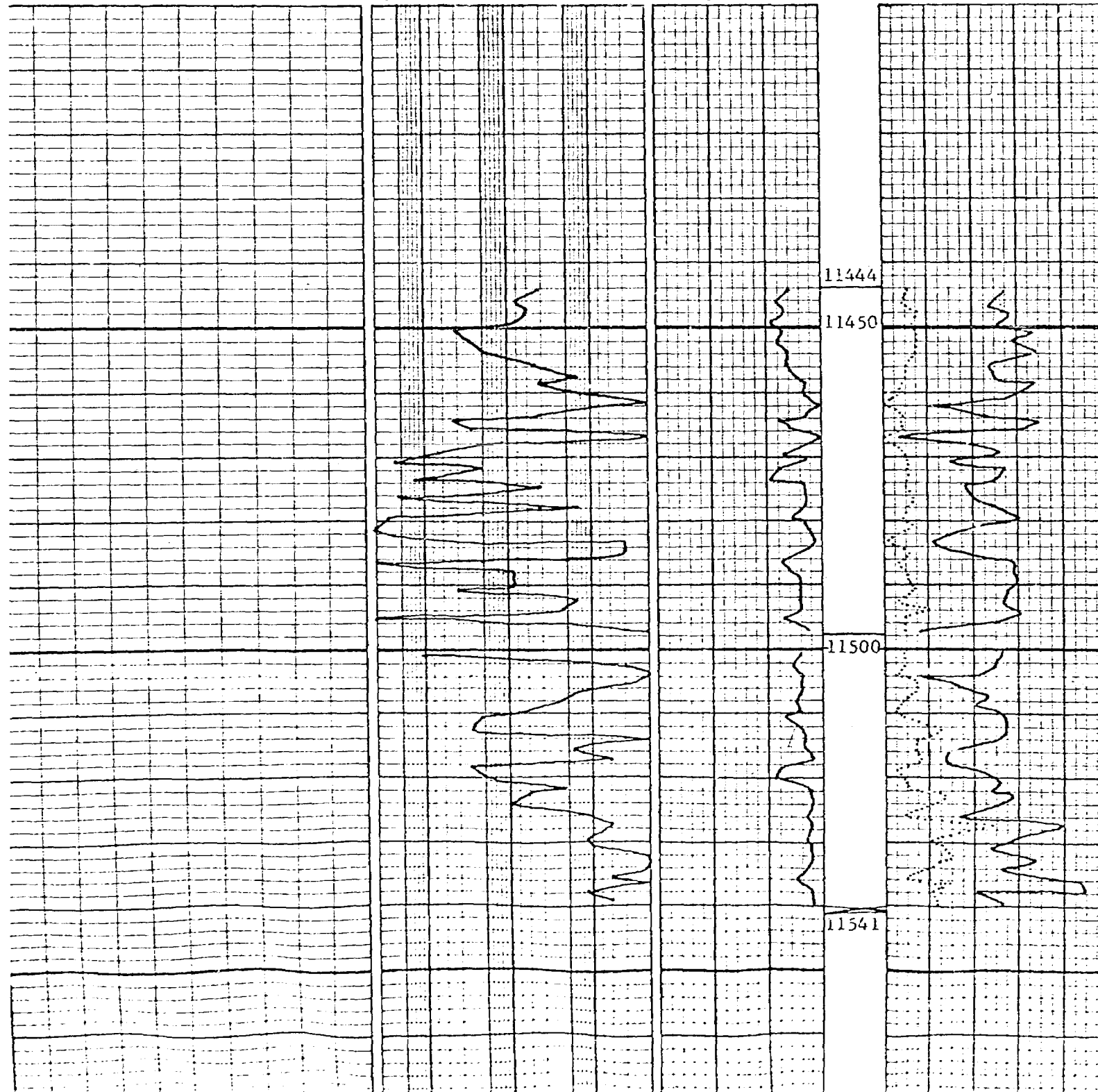
PERCENT

20 10

OIL SATURATION

PERCENT PORE SPACE

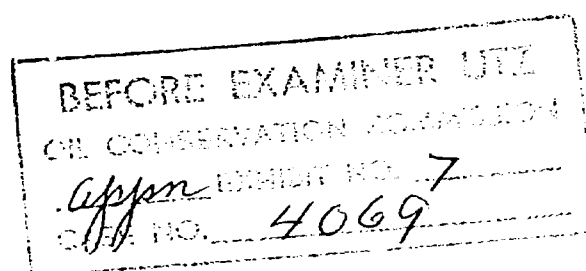
0 20 40 60 80



Application
of
Union Oil Company of California
for
New Pool Designation,
Field Rules, and Discovery Allowable
For Its
Midway State No. 1 and No. 2 Wells
Lea County, New Mexico

Case No. 4069

February 26, 1969



Union Oil Company of California
Midway State No. 1 and No. 2 Wells
Undesignated Devonian Pool
Lea County, New Mexico

Status of Reservoir Development

The Union Oil Company of California No. 1 Midway State well was completed December 23, 1968 from perforations at 11,476-520' flowing 538 BOPD on 1/2" choke with 65# tubing pressure and GOR of 170. Treatment on this well consisted of 750 gallons of 15% acid. Cumulative production through 2-23-69 from the No. 1 well is 20,260 barrels of oil. The well indicates capacity equivalent to the initial potential.

The Union Oil Company of California No. 2 well was drilled to 11,600' and is currently in the process of being completed from perforations at 11,578' to 11,594'.

Reservoir and Fluid Properties

A. Oil and Gas Properties

1. Oil Gravity - 49° API @ 60°F
2. Solution Gas Oil Ratio - 170 Cubic Feet/Barrel
3. Gas Gravity - 0.919
4. Gas Analysis

<u>Component</u>	<u>Mol.%</u>	<u>G.P.M.</u>
CO ₂	5.87	
N	2.30	
C ₁	66.32	
C ₂	7.16	
C ₃	7.52	2.064
IC ₄	2.15	0.701
NC ₄	4.19	1.317
IC ₅	1.39	0.507
NC ₅	1.32	0.477
C ₆ ⁺	<u>1.78</u>	<u>0.760</u>
Total	100.00	5.826

5. Hydrogen Sulfide in Gas - 250+ grains per 100 cu.ft.

6. Estimated Formation Volume Factor - 1.15

B. Reservoir Properties

1. Average Net Pay Thickness - 94 feet (cores & logs)

2. Average Porosity - 6.2% (cores & logs)

3. Average Permeability - 12.5 md. (Pressure buildup analysis)

4. Estimated Connate Water Saturation - 35% (logs)

5. Reservoir Temperature - 188°F

6. Original Bottom Hole Pressure - 4490 psig @ 7664 feet subsea

7. Estimated Recovery Factor - 25%

8. Assumed Water Oil Contact - 7780 feet subsea

9. Productivity Index of Midway State No. 1 - 0.5 BOPD/psi

Average Recoverable Reserves for Two Wells

$$\text{Recoverable Oil, bbls/acre foot} = \frac{(7758)(0.062)(0.65)(0.25)}{1.15}$$

$$= 63 \text{ bbls/acre foot}$$

$$= 6,390 \text{ bbls/acre}$$

$$= 255,800 \text{ bbls/40 acres}$$

$$= 511,600 \text{ bbls/80 acres}$$

Economics

A. Oil and Gas Price

1. Gross Oil Price - \$3.16/bbl.

2. Gross Gas Price - \$0.10/mcf

3. Royalty - 12.5%

4. State Taxes - 6.16% of value

B. Direct Operating Cost

\$300/month per well while flowing

\$600/month per well at initiation of pumping increasing to

\$2000/month per well at abandonment.

C. Economic Limit

$$E.L. = \frac{\$2000}{(\$3.16)(0.875)(0.9384)(30.4)} = 25.4 \text{ BOPD}$$

Assume 30.4 average days per month and no gas sales at abandonment.

D. Average Well Cost

1. Total cost of completed flowing well - \$250,000 including proportionate share of battery with salt water disposal facilities.

2. Total cost of pumping facilities - \$40,000 per well.

E. Estimated Profit After Federal Income Taxes

	<u>40 Acre Well</u>	<u>80 Acre Well</u>
Net Profit, \$	220,611.	655,164
Present Worth @ 6%, \$	186,593	565,117
@ 7%, \$	181,480	551,921
@ 8%, \$	176,509	539,177
@ 9%, \$	171,673	526,862
Payout, years	1.1	0.8

8

4069

PROPOSED SPECIAL RULES AND REGULATIONS
FOR THE
MIDWAY DEVONIAN OIL POOL

RULE 1. Each well completed or recompleted in the Midway Devonian Pool or in the Devonian formation within one mile thereof, and not nearer to or within the limits of another designated Devonian pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 80 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a governmental quarter section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit comprising a governmental quarter-quarter section or lot. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well shall be located within 150 feet of the center of a governmental quarter-quarter section or lot.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the unorthodox location within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (79 through 81 acres) shall be assigned an 80-acre proportional factor of 6.67 for allowable purposes, and in the event there is more than one well on an 80-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 80 acres.

IT IS FURTHER REQUESTED:

(1) That any well presently drilling to or completed in the Midway Devonian Pool or in the Devonian formation within one mile thereof that will not comply with the well location requirements of Rule 4 is hereby granted an exception to the requirements of said rule. The operator shall notify the Hobbs District Office of the Commission in writing of the name and location of the well within 10 days after receipt of the Oil Conservation Commission order.

(2) That each well presently drilling to or completed in the Midway Devonian Pool or in the Devonian formation within one mile thereof shall receive a 40-acre allowable until a Form C-102 dedicating 80 acres to the well has been filed with the Commission.

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

LAW OFFICES OF
JOHN F. RUSSELL
412 HINKLE BUILDING
P. O. DRAWER 640
ROSWELL, NEW MEXICO 88201

TELEPHONE 622-4641
AREA CODE 505

February 5, 1969

6 FEB 6 17

Enc 4069

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

Dear Mr. Porter:

Enclosed herewith, in triplicate, is an application of
Union Oil Company of California which I understand will be set
for hearing before an examiner on February 26th, 1969.

Very truly yours,

John F. Russell
John F. Russell

JFR/jcg

Enclosures

DOCKET MARKED
Date 2-13-69

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF)
UNION OIL COMPANY OF CALIFORNIA FOR)
AN ORDER CREATING AND DESIGNATING A)
NEW OIL POOL FOR THE PRODUCTION OF)
OIL FROM THE DEVONIAN FORMATION,)
SUCH POOL TO CONSIST OF ALL OF SECTION)
12, TOWNSHIP 17 SOUTH, RANGE 36 EAST,)
N.M.P.M., LEA COUNTY, NEW MEXICO, AND)
ESTABLISHING SPECIAL RULES AND REGULA-)
TIONS FOR SAID POOL, INCLUDING 80)
ACRE SPACING.)

No. 4069

APPLICATION

COMES NOW the Applicant, Union Oil Company of California,
by its attorney, John F. Russell, and states:

1. That Applicant did complete its Midway State No. 1
Well located 2310 feet from the North and West lines of Section
12, Township 17 South, Range 36 East, N.M.P.M., Lea County,
New Mexico, on or about December 22, 1968, and said well poten-
tiated 538 barrels of oil in a 24 hour period from the Devonian
Formation.

2. That said well discovered a new, common source of supply
in this area.

3. That in conformity with the practices of the Commission,
a pool should be created, defined and classified, including such
acreage as appears to cover the newly discovered source of supply
located in Section 12, Township 17 South, Range 36 East, N.M.P.M.,
Lea County, New Mexico.

4. That the probable areal extent of the common source of supply is limited, and to prevent waste and to protect correlative rights, proration units of 80 acres should be established.

5. That one well will efficiently and economically drain at least 80 acres of the said common source of supply.

WHEREFORE, Applicant requests the Commission to set this matter down for hearing before one of its examiners, to publish notice as required by law, and, after hearing, issue its order creating and designating a new oil pool as prayed for herein, and to provide for the orderly development of the common source of supply, and to prevent waste, drilling units of 80 acres, well-spacing regulations, and a casing program for said common source of supply.

Respectfully submitted,

UNION OIL COMPANY OF CALIFORNIA

By John F. Russell
John F. Russell
Its Attorney

P.O. Drawer 640
Roswell, New Mexico 88201

Union Oil Company of California
500 N. Marienfeld, Midland, Texas 79701
Telephone (915) MU 2-9731

RECEIVED
FEB 5 3 21 PM '69
STATE LAND OFFICE
SANTA FE, N.M.

union

'69 FEB 6 AM 12 23

Midland District

February 4, 1969

Case 4669

State of New Mexico
Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico 88240
Attn: Mr. Joe D. Ramey

Gentlemen:

In accordance with Rule 509 of the Rules and Regulations of the Oil Conservation Commission of the State of New Mexico, Union Oil Company of California respectfully requests an oil discovery allowable for its Midway State No. 1 which is located 2310 feet from the north and west lines, Section 12, 17-S, 36-E, Lea County, New Mexico.

Enclosed in support of this request you will find:

- 1) Commission Form C-109, "Application for Discovery Allowable and Creation of a New Pool".
- 2) A map depicting all wells within a two mile radius of the discovery well and showing the names of all lessees of record in the depicted area.
- 3) Complete electric log of the subject well with producing formations identified thereon.
- 4) A geological cross section prepared from electric logs of the subject well and the only nearby penetration of the Devonian formation, namely the Amerada No. 1 State "LC" which was completed as a dry hole.
- 5) Core analysis and bottom hole pressure survey from the subject well.

A subsurface structural map of the producing formation was not prepared at this time since the Midway State No. 1 is the only well within the two mile radius above stated producing from the Devonian formation. The API gravity for the crude produced from this well is 49° at 60°F. If additional data is required in support of this application, please advise.

Very truly yours,

G. W. Coombes
G. W. Coombes

District Operations Manager

HRW:rl

cc: State of New Mexico Oil Conservation Commission ← YOUR COPY
Santa Fe, New Mexico

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION FOR DISCOVERY ALLOWABLE AND CREATION OF A NEW POOL

Form C-109
 Adopted 9-1-66

NOTE: This form is to be filed and attachments made in accordance with the provisions of Rule 509.
 If discovery is claimed for more than one zone, separate forms must be filed for each.

RECEIVED

FEB 5 3 21 PM '69

Case
 17069

Operator UNION OIL COMPANY OF CALIFORNIA		Address P.O. BOX 671, MIDLAND, TEXAS 79701	
Lease Name MIDWAY STATE		Well No. 1	County LEA
Well Location Unit Letter: F 2310 Feet from The North Line and 2310 Feet From the West Line of Section 12 Township 17-S Range 36-E NMPM			
Suggested Pool Names (List in order of preference) 1. Midway Devonian 2. Lovington Devonian 3. Midlov Devonian			
Name of Producing Formation Devonian		Date of Filing Form C-104 12-27-68	
Perforations 11,476' - 11,520'		Date Well was Spudded 10-23-68	
Was "Affidavit of Discovery" Previously Filed? No		Date Compl. Ready to Prod. 12-22-68	
Total Depth 11,671'	Plugged Back Depth 11,590'	Depth Casing Shoe 11,671'	Elevation (Gr., DF, RKB, RT, etc.) 3,818 Gr
Oil Well Potential (Test to be taken only after all load oil has been recovered) 538 Bbls. Oil Per Day Based On 538 Bbls In 24 Hours; 0 Bbls Water Per Day Based On - Bbls			
In 91.5 Hours; Gas Production During Test: 170 MCF; Gas-Oil Ratio: 170 Method Of Producing: Flg. Chk. Size 32/64			

NEAREST PRODUCTION TO THIS DISCOVERY (Includes past and present oil or gas producing areas and zones whether this discovery is based on horizontal or vertical separation):

Pool Name Lovington Paddock	Name of Producing Formation Paddock	Top of Pay 6,176'	Bottom of Pay 6,277'	Currently Producing? Yes
Horizontal Distance and Direction from Subject Discovery Well to the Nearest Well in this Pool 660' North		Vertical Distance from Subject Discovery Zone to Producing Interval this Pool 5,199'		

NEAREST COMPARABLE PRODUCTION (Includes past and present oil or gas production from this pay or formation only):

Pool Name Spencer Devonian	Top of Pay 11,035'	Bottom of Pay 11,046'	Currently Producing? No
Horizontal Distance and Direction from Subject Discovery Well to the Nearest Well in this Comparable Pool 2 3/4 miles south			

Is "County Deep" Discovery Allowable Requested for Subject Discovery Well? No	If Yes, Give Name, Location, and Depth of Next Deepest Oil Production in this County
---	--

Is the Subject Well Multiple Completion? No	Is Discovery Allowable Requested for other Zone(s)? No	If Yes, Name all Such Formations
---	--	----------------------------------

11,476
 57,380

LIST ALL OPERATORS OWNING LEASES WITHIN ONE MILE OF THIS WELL (Attach additional sheet if necessary)

NAME	ADDRESS
See list attached - all operators owning leases within one mile of this well were mailed a copy of this application 2/4/69.	

Attach evidence that all of the above operators have been furnished a copy of this application. Any of said operators who intends to object to the designation of the subject well as a discovery well, eligible to receive a discovery allowable, must notify the appropriate District Office and the Santa Fe Office of the Commission of such intent in writing within ten days after receiving a copy of this application.

Remarks:

CERTIFICATION

I hereby certify that all rules and regulations of the New Mexico Oil Conservation Commission have been complied with, with respect to the subject well, and that it is my opinion that a bona fide discovery of a hitherto unknown common source of oil supply has been made in said well. I further certify that the discovery allowable for the subject well, if authorized, will be produced from the subject zone in this well only. Further, that the information given herein and attached hereto is true and complete to the best of my knowledge and belief.

 Signature	John Tyler, District Production Supt. Position	February 4, 1969 Date
--	--	---------------------------------

RECEIVED
FEB 5 3 21 PM '69
STATE LAND OFFICE
SANTA FE, N.M.

Case 4069

OFFSET OPERATORS NOTIFIED OF
APPLICATION FOR DISCOVERY ALLOWABLE AND CREATION
OF A NEW POOL

Midway State Well No. 1
Lea County, New Mexico

Amerada Oil Company	Box 591, Midland, Texas 79701
Cities Service Oil Company	800 Vaughn Bldg., Midland, Texas 79701
Getty Oil Company	Box 1231, Midland, Texas 79701
Mobil Oil Corp.	Box 633, Midland, Texas 79701
McBee Oil Company	1224 Vaughn Bldg., Midland, Texas 79701
Pan American Corp.	Box 1410, Ft. Worth, Texas 76101
Skelly Oil Company	Box 993, Midland, Texas 79701
Sunray DX Oil Company	500 Vaughn Bldg., Midland, Texas 79701
Texaco, Inc.	Box 3109, Midland, Texas 79701

DRAFT

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:

RECORDS CENTER

CASE No. 4069

Order No. R-3701-A

APPLICATION OF UNION OIL COMPANY OF
CALIFORNIA FOR THE CREATION OF A NEW
POOL, ASSIGNMENT OF DISCOVERY ALLOW-
ABLE, AND THE PROMULGATION OF SPECIAL
POOL RULES, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 4, 19670,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of March, 19670, 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 by Order No. R-3701, dated March 12, 1969, tempo-
rary Special Rules and Regulations were promulgated for the
Lovington-Devonian Pool, Lea County, New Mexico, establishing
80-acre spacing units for a period of one year.

(3) That pursuant to the provisions of Order No. R-3701,
this case was reopened to allow the operators in the subject pool
to appear and show cause why the Lovington-Devonian Pool should
not be developed on 40-acre spacing units.

(4) That the evidence establishes that one well in the
Lovington-Devonian Pool can efficiently and economically drain
and develop 80 acres.

(5) That the Special Rules and Regulations promulgated by Order No. R-3701 have afforded and will afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the oil in the pool.

(6) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, the Special Rules and Regulations promulgated by Order No. R-3701 should be continued in full force and effect until further order of the Commission.

IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations governing the Lovington-Devonian Pool, Lea County, New Mexico, promulgated by Order No. R-3701, are hereby continued in full force and effect until further order of the Commission.

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

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

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:

RECORDS CENTER & LAW LIBRARY

CASE No. 4069

Order No. R- 3701
NOMENCLATURE

APPLICATION OF UNION OIL COMPANY OF
CALIFORNIA FOR THE CREATION OF A NEW
POOL, ASSIGNMENT OF DISCOVERY ALLOW-
ABLE, AND THE PROMULGATION OF SPECIAL
POOL RULES, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 26, 1969,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this _____ day of March, 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, Union Oil Company of California,
seeks the creation of a new oil pool for Devonian production in
Lea County, New Mexico, and the assignment of an oil discovery
allowable in the amount of approximately 57,380 barrels to the
discovery well.

(3) That the applicant also seeks the promulgation of
special rules for said pool, including a provision for 80-acre
proration units.

(4) That the evidence presently available indicates that
the Union Oil Company of California Midway State Well No. 1,
located in Unit F of Section 12, Township 17 South, Range 36 East,

NMPM, Lea County, New Mexico, has discovered a separate common source of supply which should be designated the Lovington-Devonian ~~oil~~ Pool; that the vertical limits of said pool should be the Devonian formation, ~~as found in the interval from 11,476 feet to 11,520 feet on the log of the aforesaid Union Oil Company of California Midway State Well No. 1,~~ and that the horizontal limits of said pool should be ~~the~~ all of said Section 12.

(5) That the discovery well for the aforesaid pool, Union Oil Company of California's Midway State Well No. 1, located in Unit F of Section 12, Township 17 South, Range 36 East, NMPM, Lea County, New Mexico, is entitled to and should receive a bonus discovery oil allowable in the amount of 57,380 barrels, based upon the top ~~of the~~ perforations in said well at 11,476 feet, to be assigned over a two-year period.

(6) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 80-acre spacing units should be promulgated for the Lovington-Devonian ~~oil~~ Pool.

(7) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(8) That the temporary special rules and regulations should be established for a one-year period in order to allow the operators in the subject pool to gather reservoir information

to establish the area that can be efficiently and economically drained and developed by one well.

(9) That this case should be reopened at an examiner hearing in March, 1970, at which time the operators in the subject pool should be prepared to appear and show cause why the Lovington-Devonian ~~oil~~ Pool should not be developed on 40-acre spacing units.

IT IS THEREFORE ORDERED:

(1) That a new pool in Lea County, New Mexico, classified as an oil pool for Devonian production, is hereby created and designated the Lovington-Devonian ~~oil~~ Pool, with vertical limits comprising the Devonian formation ~~as found in the interval from 11,476 feet to 11,520 feet on the log of the discovery well, Union Oil Company of California's Midway State Well No. 1, located in Unit F of Section 12, Township 17 South, Range 36 East, NMPM, Lea County, New Mexico,~~ and horizontal limits comprising the following-described area:

TOWNSHIP 17 SOUTH, RANGE 36 EAST, NMPM
Section 12: All

(2) That the aforesaid discovery well is hereby authorized an oil discovery allowable of 57,380 barrels to be assigned to said well at the rate of 79 barrels per day in accordance with Rule 509 of the Commission Rules and Regulations.

(3) That temporary Special Rules and Regulations for the Lovington-Devonian ~~oil~~ Pool, Lea County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
LOVINGTON-DEVONIAN ~~oil~~ POOL

RULE 1. Each well completed or recompleted in the Lovington-Devonian ~~oil~~ Pool or in the Devonian formation within one mile thereof, and not nearer to or within the limits of

another designated Devonian oil pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 80 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a governmental quarter section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit comprising a governmental quarter-quarter section or lot, or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well shall be located within 150 feet of the center of a governmental quarter-quarter section or lot.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed location shall be notified of the application by

registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (79 through 81 acres) shall be assigned an 80-acre proportional factor of 6.67 for allowable purposes, and in the event there is more than one well on an 80-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 80 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Lovington-Devonian ~~Oil~~ Pool or in the Devonian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before April 1, 1969.

(2) That each well presently drilling to or completed in the Lovington-Devonian ~~Oil~~ Pool or in the Devonian formation within one mile thereof shall receive a 40-acre allowable until a Form C-102 dedicating 80 acres to the well has been filed with the Commission.

(3) That this case shall be reopened at an examiner hearing in March, 1970, at which time the operators in the subject pool should be prepared to appear and show cause why the

Lovington-Devonian oil Pool should not be developed on
40-acre spacing units.

(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.