

Case No.

285

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Application, Transcript,  
Small Exhibits, Etc.

BEFORE THE OIL CONSERVATION COMMISSION  
STATE OF NEW MEXICO  
SANTA FE, NEW MEXICO

IN THE MATTER OF THE HEARING CALLED  
BY THE OIL CONSERVATION COMMISSION OF  
NEW MEXICO FOR THE PURPOSE OF CON-  
SIDERING:

CASE No. 285  
ORDER No. R-96

THE MATTER OF THE APPLICATION OF  
TIDEWATER ASSOCIATED OIL COMPANY  
FOR AN ORDER CREATING AND DESIG-  
NATING A NEW POOL, AND FOR A TEM-  
PORARY TWELVE-MONTH ORDER ESTAB-  
LISHING EIGHTY ACRE PRORATION UNITS,  
UNIFORM SPACING OF WELLS DRILLED TO  
THE SAME COMMON SOURCE OF SUPPLY  
IN THE AREA COMPRISING SECTIONS 32  
AND 33, T. 16 S, AND SECTIONS 4 AND 5,  
T. 17 S, ALL IN RANGE 37 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This matter came on for hearing at 10:00 a.m., on the 21st day of June, 1951, at Santa Fe, New Mexico pursuant to public notice, before the Oil Conservation Commission hereinafter referred to as the "Commission."

NOW, on this 15th day of October, 1951, the Commission, a quorum being present, having fully considered the record and the testimony adduced at said hearing, and being fully advised in the premises,

FINDS: 1. That due public notice having been given pursuant to law, the Commission has jurisdiction of the case.

2. That Tide Water Associated Oil Company has completed in March, 1951 its State "P" No. 1-D discovery well, in the SE/4 SE/4 section 32, Township 16 South, Range 37 East, N.M.P.M., in Lea County, New Mexico; that said well produced initially in excess of seven hundred (700) barrels of oil in 24 hours through half-inch choke from perforations at 11,080 to 11,100 feet and 11,130 to 11,150 feet; that production is from the Strawn lime of the Pennsylvanian series, and the well discovered a new common source of supply in the area; that a southeast diagonal offset well is in the process of drilling at this time.

3. That there was no geologic information presented to the Commission as to the probable areal extent or directional trend of the newly discovered common source of supply.

4. That the evidence is insufficient to prove that the plan of spacing requested by petitioner will avoid the drilling of unnecessary wells, secure the greatest ultimate recovery from the pool, or that one well drilled on each 80-acre tract will efficiently drain the recoverable oil from the pool, prevent waste or protect correlative rights, and therefore an exception to normal spacing requirements is not justified.

5. That in conformity with previous practices of the Commission, a pool should be created, defined, and classified, including such surface acreage as appears to cover the newly discovered common source of supply; that such pool should be designated as the East Lovington (Pennsylvanian) pool, classified as an oil pool, and comprising:

T. 16 S, R. 37 E, N. M. P. M.  
S/2 section 32  
SW/4 section 33

T. 17 S, R. 37 E, N. M. P. M.  
N/2 section 4  
N/2 section 5

Such pool, as described above, to be subject to additions or deletions after notice and hearing as development and further information may direct or indicate.

IT IS THEREFORE ORDERED:

That the application of Tide Water, be, and the same hereby is approved in part and denied in part, as hereinafter set out:

1. The application of Tide Water Associated Oil Company, insofar as the same relates to the establishment and classification of a pool, is partially approved, as follows:

There is hereby created an oil pool, designated as the East Lovington (Pennsylvanian) pool and comprising:

T. 16 S, R. 37 E, N. M. P. M.  
S/2 section 32  
SW/4 section 33

T. 17 S, R. 37 E, N. M. P. M.  
N/2 section 4  
N/2 section 5

PROVIDED, HOWEVER, That after notice and hearing, the Commission may, from time to time, add to, or delete from, the pool hereinabove described, such surface area as in its judgment may reasonably conform to the discovered common source of supply, as determined by future development and geological information thereby gained.

2. The application of Tide Water Associated Oil Company for a temporary 80-acre spacing for a period of one year from the date hereof, in the hereinabove defined area, is hereby denied.

DONE at Santa Fe, New Mexico, the day and year hereinabove referred to.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*Edwin L. Mechem*  
EDWIN L. MECHEM, Chairman

*Guy Shepard*  
GUY SHEPARD, Member

*R. R. Spurrer*  
R. R. SPURRIER, Secretary

CASE 285: NOTICES OF PUBLICATION RECORD

Santa Fe New Mexican May 31, 1951  
(See Case 281 for clipping)

Hobbs Daily News-Sun June 1, 1951

BEFORE THE  
OIL CONSERVATION COMMISSION  
STATE OF NEW MEXICO

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TRANSCRIPTION OF HEARING

CASE NO. 285

21 June 1951  
(DATE)

E. E. GREESON  
ADA DEARNLEY  
COURT REPORTERS  
BOX 1302  
PHONE 2-4547  
ALBUQUERQUE, NEW MEXICO

BEFORE THE  
OIL CONSERVATION COMMISSION  
STATE OF NEW MEXICO

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Case 285: In this case the Commission will consider the application of Tide Water Associated Oil Company for an order designating a new pool and for a temporary order establishing proration units and uniform spacing of wells drilled to the same common source of supply in Sections 32 and 33, T. 16S, R. 37E, and Sections 4 and 5, T. 17S, R. 37E, Lea County, New Mexico (in which area Tide Water has recently completed its State "p" Well No. 1-D).

(Mr. Graham reads the notice of publication.)

J. B. HOLLOWAY, having been first duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. ARMSTRONG:

Q State your name for the record, please.--A. J. B. Holloway.

Q You are head of the proration department of Tide Water Associated Oil Company?--A. Yes, sir.

Q You have testified out here before, I believe?--A. Yes, sir.

Q Have you prepared a statement you would like to present to the Commission in connection with this hearing?--A. Yes, sir, I have.

Q Will you present it, please, sir?--A. To some of you that have read my application, it may seem partially repetitious, but I will read it as I have prepared it.

(Off the record.)

(The statement which Mr. Holloway read into the record at this point is not reproduced here but is attached to the original of this transcript.)

Q Do you have any further comment, Mr. Holloway?--A. Yes, I have several.

Q Let me ask you first to identify this instrument.--A. It is

a composite electric log of Tide Water Associated Oil Company's State "P" 1-D.

MR. ARMSTRONG: I would like to offer that as Tide Water Exhibit A.

MR. SPURRIER: Without objection, it will be received.

Q Now, Mr. Holloway, you have given us some well data information in the statements you have just read. I believe you have also prepared another exhibit continuing the well data showing the static bottomhole pressure and productivity index test results.--A. Yes. It is in tabulated form, and for the convenience of anyone that might be going over the record, why, we have prepared this little book in which we have included even the application with the further tabulation from what tests we have made.

MR. ARMSTRONG: We would like to offer the well data sheet as Tide Water Exhibit B. We will leave it in book form.

MR. SPURRIER: All right.

Q You have prepared another exhibit from the Subsurface Engineering Co. report too, I believe.--A. I didn't prepare that.

Q It was prepared by the Subsurface Engineering Co.?--A. Yes.

Q What does the report show?--A. It shows by curves and graphic form the same information on these productivity indices. We have a tabulated form and a graphic form.

MR. ARMSTRONG: I want to introduce that as Tide Water Exhibit C.

Q What is your next instrument there, Mr. Holloway?--A. The core report, prepared by the core laboratory of 27, of cores I made reference to in my earlier statement, showing average values of permeability and porosity.

MR. ARMSTRONG: I would like to introduce the core laboratory report as Tide Water Exhibit D.

Q Now, Mr. Holloway, within that blue book, the last page of it, I believe, is a copy of the plat that accompanied your application. Is that right?--A. That is correct.

Q So, we will not introduce that plat. It is already before the

Commission. The book also contains a copy of the letter written by Mr. Holloway to the Commission on May 18, 1951, together with a copy of the application; so as to make it complete for the Commission. Do you have any other comments to make, Mr. Holloway?--A. Yes, sir. I mentioned that we had had a -- were having -- a complete analysis of bottomhole samples made. We have not received that data. The sample was taken by the Sub-surface Engineering Co. and was sent to Oklahoma for analysis, and we haven't received the statement back. But, at the same time, we took another bottomhole pressure on June 5 after the well had been on production 55 days. The bottomhole pressure on the second test showed a loss of 878 lbs. That is a loss of 15.964 lbs. per day, and is equivalent to about a one per cent loss for each 16 barrels of oil that we have produced.

Q Mr. Holloway, do you consider the original bottomhole pressure that was found to exist in that well as subnormal for a well of that depth?--A. Yes, it was very much subnormal.

Q Do you consider the drop to which you have just made reference as being subnormal for a well of that depth in this area?--A. You mean abnormal?

Q Yes, excuse me.--A. Yes, I do.

MR. ARMSTRONG: I believe that is all.

MR. HOLLOWAY: I don't know whether you intended to or not, or should I state, that we asked for an order to permit us to develop this field in a manner that will expand it most rapidly with the minimum amount of steel. Without such order, of course, we would be compelled to drill our wells in a close, dense cluster, and that might later be proven to be the wrong pattern, and it would be too late then to mitigate any mistakes we would have discovered. And when I was examining the plat I filed with my application, I noticed something probably everyone else sees but I didn't, which is the small amount of additional radial drainage that is required from a well drilled on a staggered 80-acre pattern over one drilled on a regular 40-acre. On the 40-acre the well is located 1320 feet apart, and the radial drainage -- I have been assuming they would meet midway -- would be 660 feet. On a staggered 80-acre, the wells are 1866 feet apart and the midway point would be 933, or a distance of 273 feet or of only 91 yards more, which seems a very short distance, required for a well on 80 acres over that of a well that is on 40. Where we have a subnormal bottomhole pressure -- ordinarily, these



deeper wells do have considerably more bottomhole pressure than do the shallow wells and should be capable of shoving the oil through a well bore a distance of 273 feet farther than a shallow well with lower. And I can't see any harm we will do the reservoir or to any parties over a period of a year, or until we can drill 4 or 5 more wells and find out just what we do have.

Q Mr. Holloway, do you have any opinion in view of the abnormal drop in pressure about which you have testified here about what effect the drilling of wells in clusters of four that close together may do to that pressure there?--A. It would aggravate this pressure drop undoubtedly. I think we would wind up with four wells -- all of them would need some sort of artificial lift.

Q Mr. Holloway, do you have any opinion as to how much acreage out there could be efficiently drained by one well?--A. No, sir. At this time I don't know what one well will efficiently drain.

Q You don't know whether it will be 10 or 160?--A. We don't know whether this well will be an economic failure or not. This well itself may not ever pay out if no additional wells are drilled. We are not prepared to say now what we have or what distance these wells will drain, but we think probably a year from now after we have more production history and have drilled more wells we will be able to present data that will have some meat in it.

Q You are asking the Commission by its order to prevent the drilling of those wells in clusters which might aggravate the condition of abnormal drop in pressure you have testified about?--A. That's right.

Q Now, after you have drilled some more wells in this field, you think it then proper to come up here and put on the evidence to show how much acreage can be drained by one well, is that right?--A. Yes. We intended to do that.

MR. ARMSTRONG: I believe that is all.

MR. SPURRIER: Does anyone have a question of Mr. Holloway?

MR. GUERNSEY: Shell Oil Co. has a working interest in this well Mr. Holloway is talking about, and also an interest in the surrounding acreage, and we concur with Tide Water's recommendation and request that the Commission act favorably on their

proposal.

MR. GRAHAM: Mr. Holloway, will you straighten me out on this question here? Isn't the NWNW of 4, isn't that a diagonal offset from an existing well?--A. The NWNW of 4?

Q In 17S?--A. Did you ask if that was a diagonal offset?

Q Yes.--A. Yes, it is. They are on diagonal locations.

Q There is only one well there?--A. Only one well there and one well drilling.

Q And one drilling is a diagonal offset?--A. That's right.

Q On 40 acres?--A. No, not on 40 acres. It would be 40 acres -- that is, it could become 40 acres, but if the pattern we have suggested is maintained, it will be an 80-acre pattern. They will all be 1866 feet apart.

MR. ARMSTRONG: The pattern you have suggested will eliminate the drilling of equidistant direct offsets?

MR. HOLLOWAY: That's right.

MR. CALDWELL: I would like to state, as Mr. Holloway stated in his testimony, that we have an interest in this venture and we concur with Tide Water's application.

MR. SPURRIER: Very well. Thank you. Anyone else?

MR. SCOTT: Representing W. B. Osborne, Jr. We concur with the application of Tide Water and their views on that. Mr. W.B. Osborne, Jr. has a working interest in this well and also is a royalty owner in the area. And we request Tide Water's application be approved.

MR. SPURRIER: Thank you. Anyone else?

MR. WHITE: Mr. Commissioner, I have a statement I would like to make.

MR. SPURRIER: If no one has a further question of this witness he may be excused.

(Witness excused.)

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MR. ARMSTRONG: I want to introduce one more statement if you don't mind?

MR. WHITE: Surely.

MR. ARMSTRONG: Mr. Forche, representing Sinclair Oil and Gas Co, had to catch an afternoon plane, and he left a little note addressed to the Commission in which Sinclair states it owns a working interest in this four-section area and concurs in the request of Tide Water. I will read -- I will just put it in the record.

MR. SPURRIER: All right, thank you.

(The letter referred to is attached to the original of this transcript.)

MR. WHITE: (Reads prepared statement which is attached to the original of this transcript and not reproduced here.)

MR. ARMSTRONG: Mr. White, I would like to ask you a question, please, sir.

MR. WHITE: Certainly.

Q (By Mr. Armstrong) The Leonard Oil Co. is engaged in the business of drilling and producing oil and gas wells, is that right?  
--A. That is true.

Q Mr. White, you have heard the testimony with reference to the abnormal drop in the two months this well has been producing. I don't believe you are in this unit, are you?--A. No, sir.

Q You didn't contribute anything to the drilling of this well?  
--A. No, sir.

Q You haven't drilled the well over there a mile and a half away where your lease is?--A. No, sir.

Q Now, Mr. White, if you had been in this unit and had studied the drop in pressure occasioned by the relatively small amount of production that has been had, would you be ready today to start another well as an equidistant offset to the first well drilled?  
--A. Our company would be ready and willing to start the well or pay compensatory royalty or surrender the lease.

Q Have you done that all over New Mexico in your operations?

--A. We have always met our offsets as they become due.

Q Mr. White, you testified in your statement there about problems that would arise if you had different royalty ownerships under 40-acre tracts.--A. Yes, sir.

Q You have some situations in New Mexico where you have ten-acre tracts and one well on 40 acres where the royalty ownership is divided.--A. You mean a divided 10-acre mineral ownership?

Q That's right. Where you have separately owned 10-acre tracts.

--A. I don't recall any. I know of some in New Mexico, but not in our operations that I know of.

MR. SPURRIER: Mr. White will do as he sees fit, but I will remind you he isn't sworn as a witness.

MR. ARMSTRONG: That is all right. I am assuming he is telling the truth.

MR. WHITE: My testimony is worth that (laughter).

Q There are some 10-acre tracts in New Mexico?--A. Yes, sir.

Q Where they have 40-acre spacing?--A. Yes, sir.

Q They have handled the payment of royalty in that instance?

--A. As far as I know they have. However, I know of one particular case, which wouldn't interest you or the Commission, where there has been considerable talk of litigation.

Q As a matter of fact, there has been some litigation?--A. Yes.

Q But there isn't any reason why you couldn't handle it on two forties if the royalty ownership was different if you are able to handle it on 10 or 5 or smaller acreage?--A. I believe in my testimony last month in the case of the Phillips case -----

MR. SPURRIER: Denton Pool

--A. Denton Pool area. I said that we recognize that wider spacing, that the correlative rights are endangered by the wider spacing, and that it would be aggravated by the same ratio that your spacing becomes wider.

Q You don't know anything about the leasehold ownership or royalty

ownership in this four-section area upon which this application is pending, do you? By that question I mean do you know whether or not there are any 10-acre tracts or 20-acre or 40-acre tracts?

--A. The royalty ownership under it is different from the adjoining forty, which would be in this drilling pattern; after looking into it not considering it too much of my business. But I am sure you will find many of those fee minerals in that unit ~~have been traded~~ on 40-acre units because that is our experience throughout Lea County.

MR. ARMSTRONG: I think that is all.

MR. SPURRIER: Do you have anything more, Mr. Armstrong?

MR. ARMSTRONG: I don't, no.

MR. SPURRIER: Anyone have any comments or questions in the case? I have a letter addressed to the Commission dated 19 June 1951 relative to Case 285. This letter is signed by F. J. Danglade, Lovington, N. M.

(Whereupon Mr. Spurrier read the letter into the record. It is attached to the original of this transcript and is not reproduced here.)

MR. SPURRIER: Now, Mr. Armstrong, you had offered this in evidence?

MR. ARMSTRONG: I offered all the instruments marked in evidence, and the other instruments contained in the blue cover are for information only.

MR. SPURRIER: I think A has been admitted, and B to D will be accepted without objection.

MR. ARMSTRONG: Thank you. I would just like to make a few closing remarks, if I may, Mr. Commissioner?

MR. SPURRIER: Yes.

MR. ARMSTRONG: I think Mr. White's statement made in connection with this application is based upon the theory that we have requested a permanent order of this Commission. We have not asked a permanent order. We have asked of this Commission that it give us the opportunity to drill the additional wells staggered in order that those additional wells will more quickly outline the area of this field. And that we might be give the opportunity

of ascertaining by virtue of the productive history of those wells whether or not it is economically possible or feasible to develop this field on 40-acre spacing. I say to you frankly, and the evidence shows and I think is conclusive to the thinking of any man trained in the oil business, that it is extremely doubtful today that this well will pay out. This company, like all other oil companies operating in your state, are not eleemosynary institutions. We will drill such number of wells and only such number of wells as are economically feasible. We don't know today, and we have been honest with this Commission in so stating, whether this well will drain 80 acres, 10 acres, or any other number of acres. We simply don't have the productive history to give us the answer to those questions. But we earnestly urge this Commission to give us the temporary trial period we have requested in order that we might ascertain what we have here and determine we can drill on 40 acres or even 80 acres. If the next one completed is no better than this one, we may need 160 or may need to give it all up. We don't know. Furthermore, we think it is in keeping with the policy of the federal people to save the steel. And we think it is the ideal situation to conserve a very large amount of steel. We do not believe anybody will be hurt by this order. We do believe if it drilled on 40 acres with these wells clustered, as they naturally will be, we will see a more damaging drop in pressure than we have seen to date. We urge this Commission to give this application serious thought. It has been pointed out by this Commission on previous hearings similar to this case it seemed a little bit late to be coming before this Commission and asking for 80 acre spacing when a field had been partially developed on 40 acre spacing. We think this is the ideal situation. Immediately upon the completion of our first well, we filed this application. No one has been harmed and no one will be harmed by the granting of this application on a temporary and experimental basis. And we urge you to give it your every consideration.

MR. WHITE: I would like for the record to show that the Leonard Oil Co. was aware this was a request for a temporary order.

MR. SPURRIER: One question, Mr. Armstrong.

MR. ARMSTRONG: Yes, sir.

MR. SPURRIER: Just for my information. Did you make any comment in your statement, or was it in Mr. Holloway's testimony, about the allowable for the 80-acre unit.

MR. ARMSTRONG: Yes, sir. He stated that the allowable

for this well remain as it is on a 40-acre allowable. I believe he pointed out and the evidence shows this well couldn't make an 80-acre allowable if it were assigned. So, we are not asking for an increased allowable.

MR. SPURRIER: Very well. Does anyone have any other comment?

(Hearing adjourned)

STATE OF NEW MEXICO

ss

COUNTY OF BERNALILLO

I HEREBY CERTIFY That the foregoing transcript is a true record of the matters therein contained.

DONE at Albuquerque, N. M., July 6, 1951.

G. E. Green

My Commission Expires: Aug. 4, 1952.

Case 785

Statement of  
J. B. Holloway

On March 30, 1951, Tide Water Associated Oil Company, as Operator, completed State "P" well No. 1-D located in the center of SE/4 SE/4 of Section 32, T-16-S, R-37-E. This well was drilled on a geophysical prospect in which most of the owners of working interests in a four section block had joined and shared in its cost in proportion to the leasehold interest of each. The well reached a total depth of 12,572 feet. The Devonian zone, which was topped at 12,500 feet, was tested and produced salt water. A cement plug was then set at 12,130 feet and 7" casing was run to 11,960 feet to enable us to test the Mississippi zone in open hole. We did this after acidizing with 1000 gallons but recovered only a small show of gas and distillate. Another cement plug was then set in the casing from 11,202 to 11,336 feet and next we tested the Strawn line of the Pennsylvanian formation through perforations 11,080-11,100 and 11,130-11,150 feet. After being acidized, the well was swabbed in and on initial test produced 766.87 barrels of 43.5 gravity oil in 24 hours through a 1/2 inch choke with gas-oil ratio of 1147:1; tubing pressure was 390 pounds.

On April 11th productivity tests were run by the Subsurface Engineering Company. These tests were run at three rates of flow with the following results:

| <u>Rate Bbls/Day</u> | <u>G/O Ratio</u> | <u>P.I.</u> |
|----------------------|------------------|-------------|
| 722                  | 1035             | .938        |
| 440                  | 1086             | .739        |
| 248                  | 972              | .649        |

The highest bottom hole pressure recorded was 3332 p.s.i. after a 74 hour shut in period, which pressure is abnormally low for the depth. Since completion, the productivity of the well has shown an alarming decline, both in producibility and tubing pressure. The well was tested on May 18th after being on production about six weeks and producing through a 1/2" choke flowed only 399 barrels with tubing pressure 175 pounds. We have since run another static bottom hole pressure survey and have



had made a complete analysis of a bottom hole sample.

The Lower Pennsylvanian Strawn formation occurs in this well from 11,040 to 11,195 feet. Of this 155 foot interval, 80 feet appears on the electric log to be effective pay, 40 feet of which we have perforated. Based on a core analysis of the section 11,120-11,147 the average porosity is 5.3%; the permeability ranges from 0.1 to 23 with an average maximum value of 4.2 millidarcys.

We are now drilling a second well known as State "UN" No. 1 as a southeast diagonal offset. This well is drilling below 9000 feet and should be completed within thirty days. Approximately 90 days are required to drill each well. As stated in our application for this hearing, approximately 208 tons of pipe are required to drill and complete and the cost of each well will approximate \$200,000.

In view of the critical shortage of steel pipe and the great expenditure of capital required, we believe prudence requires a drilling pattern on 80-acre units with the wells located near the centers of the southeast and northwest quarters of each quarter section. With wells spaced in this manner, equities and correlative rights will be preserved, the delineation of the structure can be much more rapidly obtained with fewer wells and with the use of one-half the steel that would otherwise be required.

We have requested that a temporary order be promulgated establishing proration units to be comprised of either the east and west halves or the north and south halves of each Governmental quarter section and ordering that wells hereafter drilled in Sections 32 and 33, Township 16 South, and Sections 4 and 5, Township 17 South, Range 37 East, be located in the southeast quarter and the northwest quarter of each Governmental quarter section. As it is unlikely that one drilling rig can complete more than four wells in one year, we believe the order should be made effective for a period at least that long. We should have at the end of that time sufficient reservoir performance data and production history to offer, from which it can be

better determined if conservation and economics are being best served, and the order then be continued or altered in such manner as in the opinion of the Commission is justified.

We further suggest that the allowable production of each well located on such 80-acre unit be limited to the normal top allowable times the proportional depth factor of 5.67. We request this because of the abnormally low original bottom hole pressure and the indicated rapid decrease in pressure and productivity of the present well. In our opinion, a greater rate of production would quickly reduce pressures below that needed for natural flow.

Those that have pooled their working interests in the four sections and are participating proportionately in the development are:

Tide Water Associated Oil Company, Operator  
The Atlantic Refining Company  
Mid-Continent Petroleum Corporation  
Shell Oil Company  
Sinclair Oil and Gas Company  
Texas Pacific Coal and Oil Company  
Mr. George H. Coates  
Mr. W. B. Osborn, Jr.

*Case No. 285*

My name is Emmett D. White, and I am Vice President of Leonard Oil Company of Roswell, New Mexico.

Leonard Oil Company owns oil and gas leases in Secs. 19 and 30, Twp. 16 S., Rge. 37 E., and mineral interests in Secs. 13, 14, 22, 23, 24, 25, 26, Twp. 16 S., Rge. 36 E., Lea County. These properties are located near the unit here under consideration, and we have reason to believe according to our geological information that at least some of this acreage will prove productive. We are naturally interested in the development in this area from the viewpoint of the royalty interest and working interest.

Through its statewide rules and regulations, and over a period of many years of oil field development in this state, this Commission has established drilling and proration units of 40 acres. When producing horizons were found at greater and greater depths, our allowable formula was revised to grant increased allowables for the deeper wells. This deep well allowable seems to have been granted for purely economic reasons and probably without due consideration of conservation of oil and prevention of underground waste. The deep well allowable, as established by this Commission, permits an unusually quick pay-out on the wells and results in a favorable barrels of allowable oil to tons of steel ratio. A program to destroy our well spacing and allowable system seems to have developed with the advent of deeper drilling in southeastern New Mexico. We believe an increase in the size of our drilling unit would be in direct conflict with the best interests of fee royalty owners and state and federal royalty interests. Minerals, royalty, and leases have been bought and sold for many years in New Mexico upon the natural assumption that 40-acre drilling would be practiced. Any increase in the size of our drilling units would be but the first step leading to compulsory pooling of interests, as it would appear to be impractical to adjust units in such a manner that royalty ownership under each unit would be common. We have seen no

evidence that operators requesting wider spacing have made an effort to so adjust their proposed units, nor to unitize the royalty interests underlying the units. Thus compulsory pooling seems inevitable.

The Commission, we feel, should consider the ultimate effects of the establishment of 80-acre proration units upon the rights of royalty owners who have acquired their property upon the reasonable assumption that statewide 40-acre spacing rules would apply. We are inclined to consider the long-standing practice of 40-acre spacing in New Mexico as approaching the nature of an implied covenant in our leases.

If two 40-acre tracts of diverse royalty ownership, which is quite common, are placed in an 80-acre unit, we are unable to see any feasible manner of protecting the correlative rights of the royalty owners under each 40-acre tract or to arrive at a reasonable basis of the division of the one-eighth royalty between the two tracts. One 40 acres might be much more valuable than the other 40 acres, and if this be true, the property rights of some royalty owners would be taken without just compensation. This is especially true if the 80-acre unit is off-set by a dry hole, which would be inevitable as development approached the productive limits of the field, since such dry hole would clearly indicate that the royalty under one 40-acre tract in the 80-acre unit was more valuable than the royalty under the other 40-acre tract. We believe that the only reasonable manner of determining the value of minerals or royalty under a 40-acre tract is by actually drilling the tract, and this could not be done under 80-acre spacing, so that the result would be that a tract would simply be valued by testimony as to its probable value.

We know of no science which can determine the productive limits of an oil field in advance of the drill, and we doubt very much if any science can positively state that a well will or will not effectively drain any given acreage.

Some of our most prudent operators are now drilling their wells on 10-acre locations which will permit a more dense pattern if conditions

warrant at some future date. We believe that operators in New Mexico and this Commission should give consideration to equally weighty scientific opinion which advocates closer spacing rather than wider spacing. Some operators are now developing fields in neighboring oil producing states on spacing patterns of 20 acres or less, and it is possible that reservoir conditions in some cases might indicate closer spacing for New Mexico.

Respectfully submitted,

LEONARD OIL COMPANY

By

*Emmett D. White*  
Emmett D. White  
Executive Vice President

June 21<sup>st</sup> 1951

Oil Conservation Commission  
State of New Mexico  
Santa Fe N.M.

Gentlemen:-

Reference is made to Case No 285 being the application of Tidewater Assoc. Oil Co. for order designating a new pool and for temporary order establishing 80 acre spacing and drilling units of wells drilled to same common source of supply in Sec 32 and 33-16 S-37 E 4th Sec. 4 and 5 - 178-37 E Lea Co. New Mexico

Suncor Oil & Gas Company is the working interest owner of 13.83% covering the rights below 5200 feet and also is the full interest owner of leases adjoining and in the vicinity of the acreage set forth in Case 285 and strongly urges the Commission to grant the temporary order establishing 80 acre provision units and uniform spacing of wells as required in the application of Tidewater Assoc. Oil Co. designates Case 285

Respectfully

Suncor Oil & Gas Co.

By: *[Signature]*

For T. H. Hammett  
Vice Pres.

Tulsa, OKLA.

Case 285

**F. J. DANGLADE**

LOVINGTON, NEW MEXICO

19 June 1951

RE: Case No. 285

Application of Tide Water Associated  
Oil Company - East Lovington Pool

Oil Conservation Commission  
State of New Mexico  
Santa Fe, New Mexico

Gentlemen:

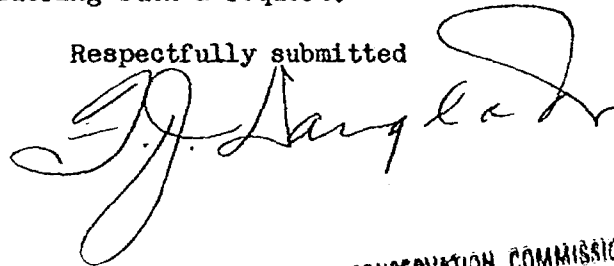
Above applicant has requested a hearing before your body to secure a temporary 80 acre spacing pattern for what is to be designated as the East Lovington Pool.

The undersigned is a royalty holder within the unit upon which the request is made and wishes to protest the granting of such 80 acre spacing on the following grounds:

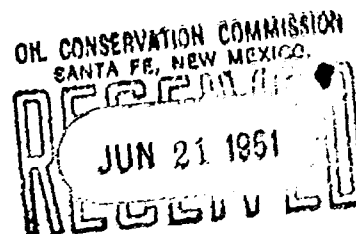
1. It is contrary to the basic spacing regulations within the State of New Mexico.
2. Sufficient development has not occurred to prove that 40 acre spacing is economically unsound.
3. Applicant has requested a temporary order for "not less than one year". In view of the present slow rate of development in this area, it is submitted that little more will be known about the area at the end of that period.

It would appear more in order to determine the facts from the completion of several wells within the unit before making or considering such a request.

Respectfully submitted



FJD

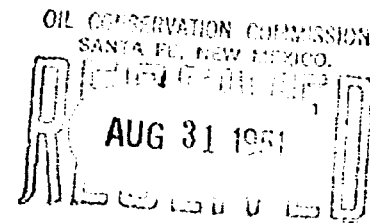






145 285  
W. B. OSBORN, JR.  
FROST NATIONAL BANK BUILDING  
SAN ANTONIO 5, TEXAS

August 29, 1951



New Mexico Oil Conservation Commission  
State Capitol  
Santa Fe, New Mexico

Gentlemen:

Will you please send us a copy of the findings and orders issued by the Oil Conservation Commission as a result of hearing in Case 285 "Application of Tide Water Associated Oil Company, for an order designating a new pool and for a temporary order establishing proration units and uniform spacing of wells drilled to the same common source of supply in Section 32 and 33, T.16S, R. 37 E, and Sections 4 and 5, T. 17 S, R. 37 E, Lea County, New Mexico" June 21, 1951.

We have lease and royalty interest in the Tide Water unit and consequently having working interest in Tide Water State "P" Well No. 1-D.

Very sincerely yours,

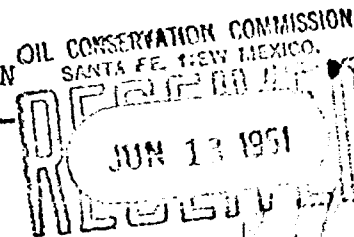
W. B. OSBORN, JR.

By

*E. D. Sutton*

EOSJr:md

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO



CASE 285

IN THE MATTER OF THE APPLICATION OF TIDE WATER ASSOCIATED OIL COMPANY FOR AN ORDER DESIGNATING A NEW POOL, AND FOR A TEMPORARY ORDER ESTABLISHING PRORATION UNITS AND UNIFORM SPACING OF WELLS DRILLED TO THE SAME COMMON SOURCE OF SUPPLY IN THAT AREA COMPRISING SECTIONS 32 and 33, TOWNSHIP 16 SOUTH AND SECTIONS 4 and 5, TOWNSHIP 17 SOUTH, ALL IN RANGE 37 EAST, LEA COUNTY, NEW MEXICO.

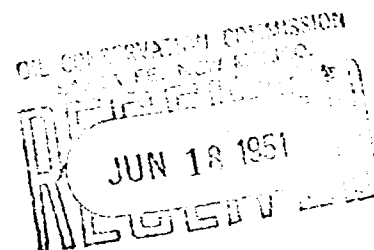
Comes now, Tide Water Associated Oil Company, a Delaware Corporation, operating in New Mexico from a field office in Hobbs, New Mexico, and respectfully represents to the Oil Conservation Commission of the State of New Mexico that it has completed the State "P" No. 1-D, an exploratory well, at a location in the approximate center of SE/4 SE/4 Section 32, Township 16 South, Range 37 East, Lea County, New Mexico. This well, drilled to a total depth of 12,572 feet was plugged back and completed in the Strawn lime of the Pennsylvanian formation, through perforations 11,080-11,100 and 11,130-11,150 feet. The well was acidized with 6,000 gallons and commenced producing March 30, 1951. On initial test the well produced 766.87 barrels of 43.5 gravity oil in 24 hours through a  $\frac{1}{2}$  inch choke, tubing pressure 390 pounds, gas-oil ratio 1147 to 1.

Applicant's State "P" No. 1-D Well, above referred to, is the only well now producing in what is generally referred to as the East Lovington Pool. A diagonal offset has been commenced at a location in the approximate center of the NW/4 NW/4 Section 4, Township 17 South, Range 37 East, known as State "U" No. 1. It is estimated that State "U" No. 1 and subsequent wells will cost approximately \$200,000 and that 208 tons of pipe will be required to complete each producing well. In view of the critical shortage of pipe, especially of the grade and weight necessary to drill these deep wells, and the great expenditure of capital required, two factors are presented that make it desirable to develop the Pool on 80-acre units until and unless it is later found that such wells are not capable of efficiently and economically draining 80 acres. Further, 80-acre units will make it possible to more rapidly define the extent of the reservoir with fewer wells and determine ultimate recoverable oil reserves.

Applicant believes and respectfully submits unto the Commission that 80-acre proration units would be in the interest of conservation, which in turn would be in the interest of the general public, the State, and would preserve correlative rights and equities.

The following owners of mineral working interests in the above mentioned four sections have pooled their interests and are participating proportionately in the development:

Tide Water Associated Oil Company, Operator  
The Atlantic Refining Company  
Mid-Continent Petroleum Corporation  
Shell Oil Company  
Sinclair Oil and Gas Company  
Texas-Pacific Coal and Oil Company  
Mr. Geo. H. Coats, San Antonio, Texas  
Mr. W. B. Osborn, Jr., San Antonio, Texas



On the basis of the existing conditions, your applicant respectfully requests that the Strawn lime of the Pennsylvanian formation as found to be productive in Tide Water Associated Oil Company's et al's, State "P" No. 1-D be designated as the East Lovington Pool; that a temporary order be promulgated, to be effective for a period of not less than one year, establishing proration units to be comprised of either the west and east halves or the north and south halves of each Governmental quarter section, and ordering that wells hereafter drilled in Sections 32 and 33, Township 16 South and Sections 4 and 5, Township 17 South, Range 37 East, Lea County, New Mexico, be located in the Southeast Quarter and the Northwest Quarter of each Governmental quarter section. It is further suggested to the Commission that the allowable production of each well located on such 80-acre unit be limited to the normal top allowable times the proportional depth factor of 5.67, this allowable to remain in effect until more production history and reservoir performance data becomes available, which, in the opinion of the Commission, justifies such change as it may deem to be necessary.

Attached hereto is a plat illustrating the lease conditions existing and the proposed plan of development.

Done at Houston, Texas, on this 18th day of May, 1951.

Respectfully submitted,

TIDE WATER ASSOCIATED OIL COMPANY

/s/ By J. B. Holloway

N. M. OIL AND GAS ENGINEERING COMMITTEE  
HOBBS, NEW MEXICO  
JUNE 8, 1951

DOCKET  
OIL CONSERVATION COMMISSION

Resume of applications to be heard June 21, 1951, at 10:00 A. M. in Santa Fe, New Mexico, in the Council Chamber of the City Hall.

- First: Consideration of allowable for July, 1951.
- Case 202: This case involves the rate of production of the Brunson Pool and has been successively continued to June 21, 1951.
- Case 278: Called upon the application of Land Commissioner Guy Shepard, this case is concerned with the establishment of a casing program and other special procedural regulations in the potash areas of Lea and Eddy counties.
- Case 279: Wherein the Oil Conservation Commission has itself made application for an order directed to S. T. Silverstein, T. H. Donnelly, Sarah D. Ulmer and the Massachusetts Bonding and Insurance Company for plugging and abandonment of well in SE SE SW 11-12N-32E, NMPM, Quay County, New Mexico.
- Case 280: Wherein the Oil Conservation Commission, also in its own application, has asked for an order directed to O. L. Ledgerwood, E. L. Kimes and to the Accident and Casualty Company of New York regarding the plugging and abandonment of well located SE SE 11-12N-32E, NMPM, Quay County, New Mexico.
- Case 281: In the matter of the application of Continental Oil Company for an order granting permission for dual completion of its H. M. Britt A-6 No. 4 well, Monument-Paddock Pool, 6-20S-37E.
- Case 282: In the matter of the application of S. E. Cone for an order authorizing dual completion of his Anderson No. 1 well, Drinkard Pool, NESE 21, 21S, 37E, NMPM.
- Case 283: In regard to Blanco Gas Company's application for an order granting exception to Section 4-A of Order No. 799 with regard to casing requirements in San Juan County, New Mexico.
- Case 284: In regard to the Oil Conservation Commission's application upon its own motion for the extension of, correction of boundaries, consolidation of or creation of new pools, or for the purpose of placing in a pool certain wells in Southeastern New Mexico.
- Case 285: In this case the Commission will consider the application of Tide Water Associated Oil Company, for an order designating a new pool and for a temporary order establishing proration units and uniform spacing of wells drilled to the same common source of supply in Section 32 and 33, T. 16S, R. 37 E, and Sections 4 and 5, T. 17 S, R. 37 E, Lea County, New Mexico (in which area Tide Water has recently completed its State "P" Well No. 1-D).
- 11-5



**TIDE WATER ASSOCIATED OIL COMPANY**  
MID-CONTINENT DIVISION  
May 18, 1951

New Mexico Oil Conservation Commission  
Santa Fe, New Mexico

Attention: Mr. R. R. Spurrier, Secretary

Gentlemen:

We are enclosing three copies of application for an order designating a new pool and for a temporary order establishing proration units and uniform spacing of wells drilled to the same common source of supply in that area comprising Sections 32 and 33. Township 16 South, and Sections 4 and 5. Township 17 South, all in Range 37 East, Lea County, New Mexico, in which area Tide Water Associated Oil Company recently completed its State "F" well No. 1-D.

It would be appreciated if hearing covering this matter could be held at your regular scheduled June 21st session.

Yours very truly,

TIDE WATER ASSOCIATED OIL COMPANY

By: J. B. Holloway

JBH/pb  
Encls.

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF TIDE WATER ASSOCIATED OIL COMPANY FOR AN ORDER DESIGNATING A NEW POOL, AND FOR A TEMPORARY ORDER ESTABLISHING PRORATION UNITS AND UNIFORM SPACING OF WELLS DRILLED TO THE SAME COMMON SOURCE OF SUPPLY IN THAT AREA COMPRISING SECTIONS 32 AND 33, TOWNSHIP 16 SOUTH AND SECTIONS 4 AND 5, TOWNSHIP 17 SOUTH, ALL IN RANGE 37 EAST, LEA COUNTY, NEW MEXICO.

Comes now, Tide Water Associated Oil Company, a Delaware Corporation, operating in New Mexico from a field office in Hobbs, New Mexico, and respectfully represents to the Oil Conservation Commission of the State of New Mexico that it has completed the State "P" No. 1-D, an exploratory well, at a location in the approximate center of SE/4 SE/4 Section 32, Township 16 South, Range 37 East, Lea County, New Mexico. This well, drilled to a total depth of 12,572 feet was plugged back and completed in the Strawn lime of the Pennsylvanian formation, through perforations 11,080-11,100 and 11,130-11,150 feet. The well was acidized with 6,000 gallons and commenced producing March 30, 1951. On initial test the well produced 766.87 barrels of 43.5 gravity oil in 24 hours through a 1/2 inch choke, tubing pressure 390 pounds, gas-oil ratio 1147 to 1.

Applicant's State "P" No. 1-D Well, above referred to, is the only well now producing in what is generally referred to as the East Lovington Pool. A diagonal offset has been commenced at a location in the approximate center of the NW/4 NW/4 Section 4, Township 17 South, Range 37 East, known as State "U" No. 1. It is estimated that State "U" No. 1 and subsequent wells will cost approximately \$200,000 and that 208 tons of pipe will be required to complete each producing well. In view of the critical shortage of pipe, especially of the grade and weight necessary to drill these deep wells, and the great expenditure of capital required, two factors are presented that make it desirable to develop the Pool on 80-acre units until and unless it is later found that such wells are not capable of efficiently and economically draining 80 acres. Further, 80-acre units will make it possible to more rapidly define the extent of the reservoir with fewer wells and determine ultimate recoverable oil reserves.

Applicant believes and respectfully submits unto the Commission that 80-acre proration units would be in the interest of conservation of steel which in turn would be in the interest of the general public, the State, and would preserve correlative rights and equities.

The following owners of mineral working interests in the above mentioned four sections have pooled their interests and are participating proportionately in the development:

Tide Water Associated Oil Company, Operator  
The Atlantic Refining Company  
Mid-Continent Petroleum Corporation  
Shell Oil Company  
Sinclair Oil and Gas Company  
Texas Pacific Coal and Oil Company  
Mr. Geo. H. Coats, San Antonio, Texas  
Mr. A. B. Osborn, Jr., San Antonio, Texas

On the basis of the existing conditions, your applicant respectfully requests that the Strawn lime of the Pennsylvanian formation as found to be productive in Tide Water Associated Oil

Company, et al's, State "F" No. 1-D be designated as the East Lovington Pool; that a temporary order be promulgated, to be effective for a period of not less than one year, establishing proration units to be comprised of either the west and east halves or the north and south halves of each Governmental quarter section, and ordering that wells hereafter drilled in Sections 32 and 33, Township 16 South and Sections 4 and 5, Township 17 South, Range 37 East, Lea County, New Mexico, be located in the Southeast Quarter and the Northwest Quarter of each Governmental quarter section. It is further suggested to the Commission that the allowable production of each well located on such 80-acre unit be limited to the normal top allowable times the proportional depth factor of 5.67, this allowable to remain in effect until more production history and reservoir performance data becomes available, which, in the opinion of the Commission, justifies such change as it may deem to be necessary.

Attached hereto is a plat illustrating the lease conditions existing and the proposed plan of development.

Done at Houston, Texas, on this 18th day of May, 1951.

Respectfully submitted,

TIDE WATER ASSOCIATED OIL COMPANY

By: J. B. Holloway



Case 70-782  
6.8.16

WELL DATA

State "P" #1-D

Location: 660' FSL & FEL, Sec. 32, T-16-S, R-37-E, Lea County, New Mexico.

Elevation: 3799' DF.

Total Depth: 11,202' PB.

Casing:

|              |         |         |                  |
|--------------|---------|---------|------------------|
| Surface      | 13 3/8" | 320'    | 350 Sacks cement |
| Intermediate | 9 5/8"  | 4988'   | 3000 Sacks "     |
| Production   | 7"      | 11,960' | 750 Sacks "      |

Acidized: This well was treated with 6000 gallons of acid through casing perforations @ 11,080-11,100' and 11,130-50'; the well flowed 35 barrels of oil per hour after treatment.

Perforations:

11,080-11,100' and 11,130-11,150'

Initial Potential:

Flowed 767 Barrels of oil per day on 1/2" choke with a tubing pressure of 390 psig. and casing pressure of zero psig.; the gas-oil ratio was 1147 Cu.Ft./bbl. and the API gravity of the oil was 43.5 degrees.

STATIC BOTTOM HOLE PRESSURE

| <u>Date</u> | <u>Period Shut in</u> | <u>Datum</u> | <u>Bottom Hole Pressure</u> | <u>Loss</u> |
|-------------|-----------------------|--------------|-----------------------------|-------------|
| 4-11-51     | 74 hrs.               | - 7300'      | 3327 psig.                  | -           |
| 6-5-51      | 74 hrs.               | - 7300'      | 2449 psig.                  | 878 psig.   |

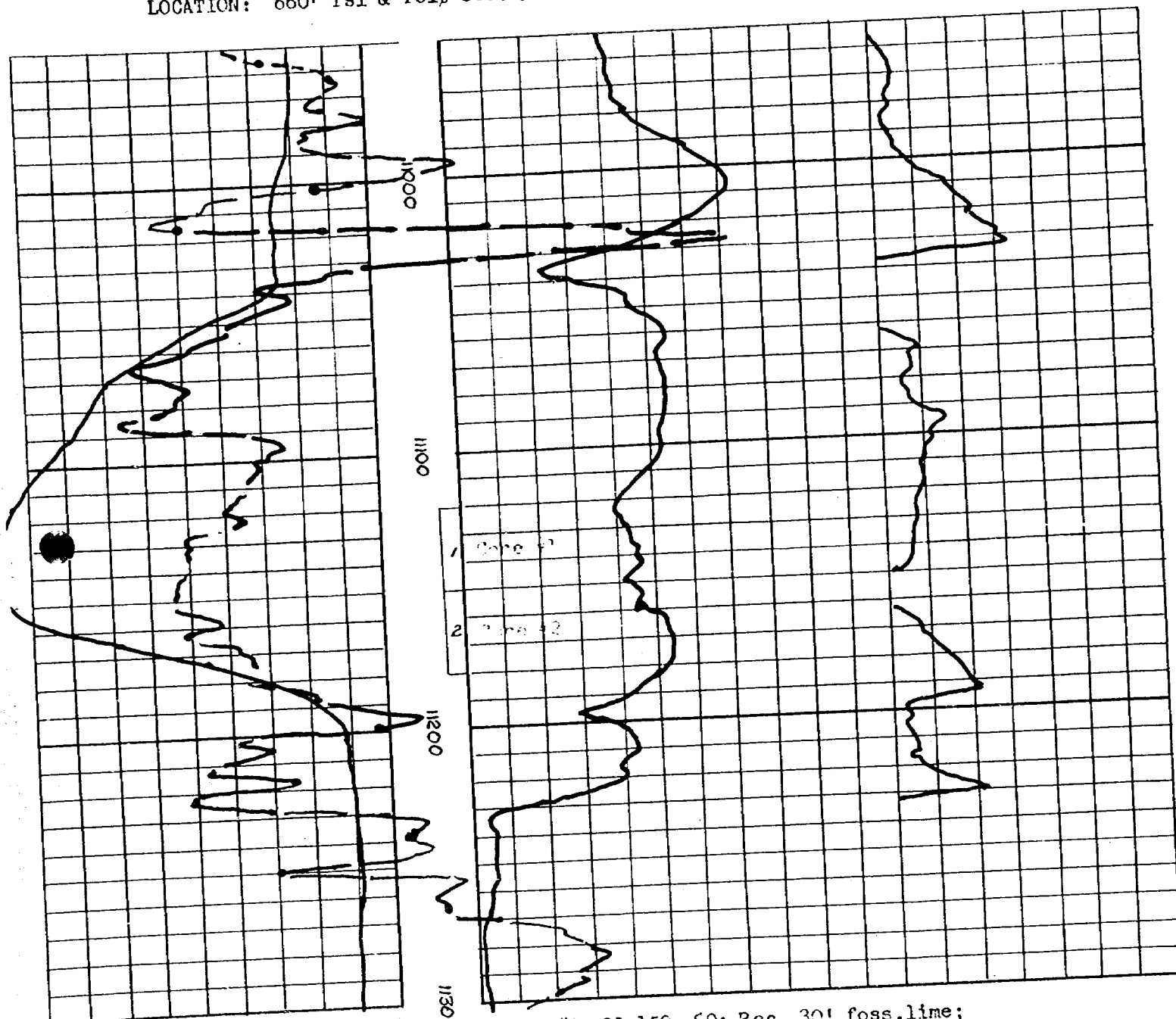
PRODUCTIVITY INDEX TEST

| <u>Choke</u> | <u>Hours Flowing</u> | <u>Datum Pressure</u> |              | <u>Oil (B/D)</u> | <u>Gas-Oil Ratio (Cu.Ft./bbl.)</u> | <u>PI (BOPD/psi. drop)</u> |
|--------------|----------------------|-----------------------|--------------|------------------|------------------------------------|----------------------------|
|              |                      | <u>Initial</u>        | <u>Final</u> |                  |                                    |                            |
| 1/2"         | 15                   | 3327                  | 2562         | 722.16           | 1035                               | 0.938                      |
| 3/8"         | 8                    | 2562                  | 2737         | 440.44           | 1086                               | 0.739                      |
| 1/4"         | 8                    | 2737                  | 2950         | 248.50           | 972                                | 0.649                      |

Taken From  
**SCHLUMBERGER ELECTRIC LOG**

OPERATOR: Tide Water Associated Oil Company  
 LEASE: State "p"  
 WELL: # 1-D  
 FIELD: Wildcat  
 LOCATION: 660' fsl & fsl/ Sec. 32-16S-37E

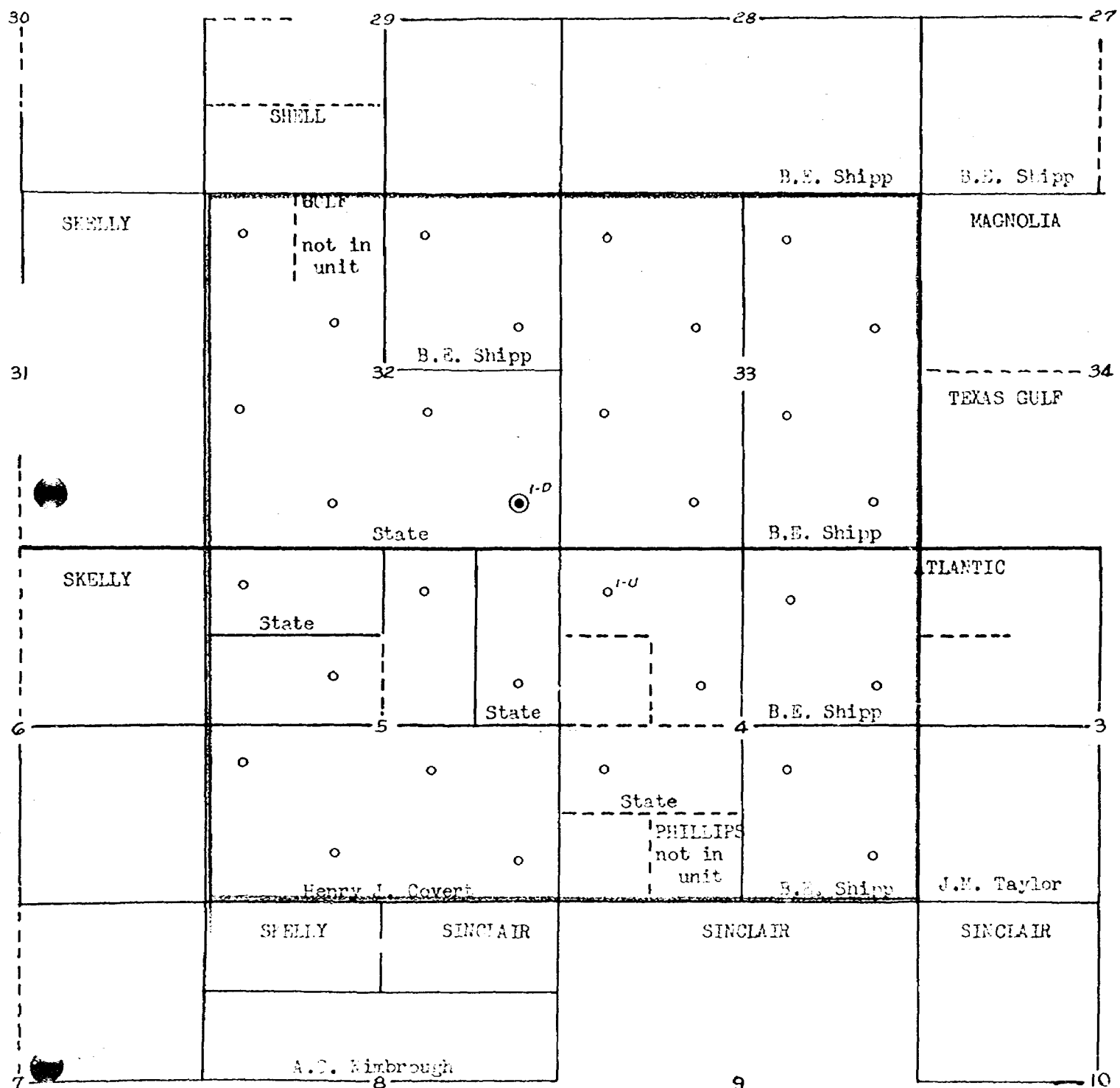
COUNTY: Lea  
 STATE: New Mexico  
 ELEV: 3799' DF.



Core #1: 11,120-50; rec. 27.5' of foss. lime; good por., stn., odor & flour throughout.

Core #2: 11,150-80; Rec. 30' foss. lime; 2' good por., stn.; 26' dense lime w/no por. or stn.; 1' blk. sh; 1' cherty brn. lime

Well Stem Test: 11,066-11,120; 2000' WB; opn 5 hrs, gas 40 min, shut in overnight; rec. 5760' oil and 1980' WB; F.press. 1275-2575 psi.; 15 m. Shut in 3550 psi.



*Case 215*

**TIDE WATER ASSOCIATED OIL COMPANY**

MID-CONTINENT DIVISION  
MELLIE ESPERSON BLDG. POST OFFICE BOX 1404  
HOUSTON 1, TEXAS

May 18, 1951

*June 21*

New Mexico Oil Conservation Commission  
Santa Fe, New Mexico

Attention: Mr. R. R. Spurrier, Secretary

Gentlemen:

We are enclosing three copies of application for an order designating a new pool and for a temporary order establishing proration units and uniform spacing of wells drilled to the same common source of supply in that area comprising Sections 32 and 33, Township 16 South, and Sections 4 and 5, Township 17 South, all in Range 37 East, Lea County, New Mexico, in which area Tide Water Associated Oil Company recently completed its State "p" well No. 1-D.

It would be appreciated if hearing covering this matter could be held at your regular scheduled June 22nd session.

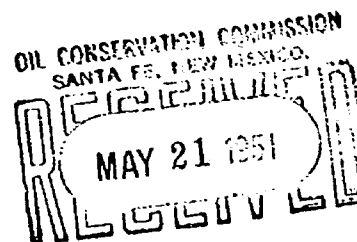
Yours very truly,

TIDE WATER ASSOCIATED OIL COMPANY

By: *J. B. Holloway*

J. B. Holloway

JBH/pb  
Enc.



BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF TIDE WATER ASSOCIATED OIL COMPANY FOR AN ORDER DESIGNATING A NEW POOL, AND FOR A TEMPORARY ORDER ESTABLISHING PRORATION UNITS AND UNIFORM SPACING OF WELLS DRILLED TO THE SAME COMMON SOURCE OF SUPPLY IN THAT AREA COMPRISING SECTIONS 32 AND 33, TOWNSHIP 16 SOUTH AND SECTIONS 4 AND 5, TOWNSHIP 17 SOUTH, ALL IN RANGE 37 EAST, LEA COUNTY, NEW MEXICO.

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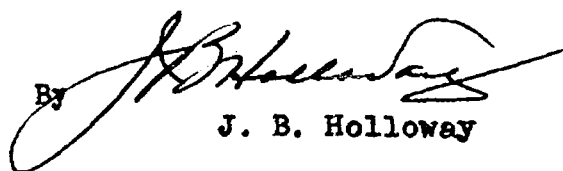
Attached hereto is a plat illustrating the lease conditions existing and the proposed plan of development.

Done at Houston, Texas, on this 18th day of May, 1951.

Respectfully submitted,

TIDE WATER ASSOCIATED OIL COMPANY

By



J. B. Holloway