CASE 2532: Application of ZAPATA
for two additional injection wells,
[redacted] Lea County.

Case No.

2532

Petition, Transcript,

Roll Exhibits, Etc.

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

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

P. O. BOX 871
SANTA FE

May 8, 1962

Re: Case No. 2532
Order No. R-2157-A
Applicant:
ZAPATA PETROLEUM CORPORATION

Mr. John F. Russell
Campbell & Russell
P. O. Drawer 640
Roswell, New Mexico

Dear Sir:

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

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC

OTHER

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 2532
Order No. R-2157-A

APPLICATION OF ZAPATA PETROLEUM
CORPORATION FOR TWO ADDITIONAL
INJECTION WELLS, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on April 25, 1962, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 8th day of May, 1962, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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-2157, entered in Case No. 2458 on January 3, 1962, Zapata Petroleum Corporation was authorized to institute a waterflood project in the Maljamar Pool in the S/2 of Section 17 and the N/2 of Section 20, all in Township 17 South, Range 33 East, NMPM, Lea County, New Mexico, by the injection of water into the Grayburg-San Andres formation through the Zapata-Western State Wells Nos. 6, 8, and 15.

(3) That the applicant, Zapata Petroleum Corporation, seeks permission to convert to water injection its Phillips State "B" Wells Nos. 3 and 5, located, respectively, in Units H and B, Section 19, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico, as additional injection wells in the Maljamar Pool Waterflood Project previously authorized by said Order No. R-2157.

(4) That approval of the subject application will neither cause waste nor impair correlative rights.

IT IS THEREFORE ORDERED:

(1) That Zapata Petroleum Corporation is hereby authorized to convert to water injection its Phillips State "B" Wells Nos. 3 and 5, located, respectively, in Units H and B, Section 19, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico, as an addition to its waterflood project previously authorized in the Maljamar Pool by Order No. R-2157.

(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

EDWIN L. MECHEM, Chairman

E. S. WALKER, 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. 2538
Order No. R-2030-A

APPLICATION OF SOUTHWEST PRODUCTION COMPANY FOR A NON-STANDARD OIL PRORATION UNIT, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on April 25, 1962, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 8th day of May, 1962, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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-2030, entered in Case No. 2323 on July 13, 1961, the Commission established two 56.625-acre non-standard oil proration units in the Cha Cha-Gallup Oil Pool in that portion of the SE/4 of Section 16, Township 29 North, Range 14 West, NMPM, San Juan County, New Mexico, lying North of the mid-channel of the San Juan River. That said order also authorized Southwest Production Company to locate a well at an unorthodox location 1912 feet from the South line and 2310 feet from the East line of said Section 16.

(3) That even though it may be assumed that all of the above-described acreage is productive to some degree in the Cha Cha-Gallup Oil Pool, Southwest Production Company does not contemplate the drilling of a well on the East 56.625-acre proration unit.

(4) That the applicant, Southwest Production Company, requests that Order No. R-2030 be superseded and that a 73.89-acre non-standard oil proration unit in the Cha Cha-Gallup Oil

Pool be established comprising the NE/4 SE/4 and that portion of the NW/4 SE/4 lying North of the mid-channel of the San Juan River, all in said Section 16, sand unit to be dedicated to the Foutz-State Well No. 1 at the above-described location.

(5) That approval of the subject application will neither cause waste nor impair correlative rights.

IT IS THEREFORE ORDERED:

(1) That a 73.89-acre non-standard oil proration unit in the Cha Cha-Gallup Oil Pool is hereby established comprising the NE/4 SE/4 and that portion of the NW/4 SE/4 lying North of the mid-channel of the San Juan River in Section 16, Township 29 North, Range 14 West, NMPM, San Juan County, New Mexico. Said unit shall be dedicated to the Foutz-State Well No. 1, located 1912 feet from the South line and 2310 feet from the East line of said Section 16.

(2) That the provision of Order No. R-2030 relating to the establishment of two 56.625-acre non-standard oil proration units in said Section 16 is hereby superseded.

(3) 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 herein-above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

E. S. WALKER, Member

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

esr/

Case 2532
Heard 4-25-62
Rec. 4-26-62

1. Grant Zapata's request for an extention to the waterflood project granted in R-2157.
2. The area extention will be.
   17S - 33E, sec. 19, N/2, N/2 S/2, SE/4 SW/4, S/2 SE/4.
3. Additional injection wells are;
   Zapata - Phillips St. B #3 H-19-17S-33E
   " - " "B" #5 B-" " " ".

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF ZAPATA PETROLEUM CORPORATION FOR PERMISSION TO CONVERT TO WATER INJECTION WELLS TWO WELLS ON ITS PHILLIPS STATE "B" LEASE IN SECTION 19, TOWNSHIP 17 SOUTH, RANGE 33 EAST, MALJAMAR FIELD, LEA COUNTY, NEW MEXICO.

No. 2532

APPLICATION

COMES NOW Zapata Petroleum Corporation by its attorneys, Campbell & Russell, Roswell, New Mexico, and states:

1. It is the owner and operator of its Phillips State "B" Lease in Section 19, Township 17 South, Range 33 East, Maljamar Field, Lea County, New Mexico.

2. It desires to convert to water injection wells the following:

Phillips State "B"-3	Unit H
Phillips State "B"-5	Unit B

3. The injection wells will be flooding the Grayburg and San Andres formation at a depth between 4080 and 4408 feet and the water will be purchased from Yucca Water Company.

4. The injection rate during fill-up will be 300-400 BWPD. After fill-up the rate will be 200-300 BWPD.

5. It attaches the following:

(a) Plat of area
(b) Casing and cement record of injection wells
(c) Copy of logs

WHEREFORE, Applicant requests this matter be set down for hearing before an examiner, that notice be published as re-

quired by law and that, after hearing, the Commission issue its Order permitting the conversion to water injection wells as requested.

Respectfully submitted,

ZAPATA PETROLEUM CORPORATION

By John F. Russell

Campbell & Russell
P. O. Drawer 640
Roswell, New Mexico

Its Attorneys

LAW OFFICES OF
CAMPBELL & RUSSELL
P. O. DRAWER 640
ROSWELL, NEW MEXICO

JACK M. CAMPBELL
JOHN F. RUSSELL

TELEPHONES
MAIN 2-4641
MAIN 2-4642

Case 2532

1962 APR 10 AM 7 20

April 9, 1962

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

Gentlemen:

We transmit herewith, in triplicate, the application of Zapata Petroleum Corporation with the accompanying exhibits.

Very truly yours,

CAMPBELL & RUSSELL

John F. Russell

John F. Russell

JFR:np

Enclosures

Letter mailed 4/12/62

Ex No. 11

CAPROCK WATER COMPANY
P. O. Box 607
Artesia, New Mexico

April 19, 1962

Zapata Petroleum Corporation
P. O. Box 3195
Midland, Texas

Re: Injection water - Your project
located in Section 19, T-17-S,
R-33-E, Lea County, New Mexico.

Gentlemen:

In accordance with our conversation, we wish to inform you that we are agreeable to furnishing injection water for the subject project under our standard water sales contract. We can have this water available for you within six weeks after the execution of the agreement.

Yours very truly,

CAPROCK WATER COMPANY

By: H. N. Morgan
Harold N. Morgan

BHM:dk

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

April 25, 1962

EXAMINER HEARING

IN THE MATTER OF:

Application of Zapata Petroleum Corporation for two additional injection wells, Maljamar Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to convert its Phillips 8-B Wells No. 3 and 5 located respectively in Units H and B, Section 19, Township 17 South, Range 33 East, Lea County, New Mexico, to water injection wells in its pilot waterflood project in the Maljamar (Grayburg-San Andres Pool authorized by Order No. R-2157. CASE 2532

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: The Hearing will come to order, please. For the benefit of those interested, there will only be this change, so far as I know at the present time, in the order of the docket. 2541 and 2542 will go to the end of the docket. Case 2532.

MR. MORRIS: In the matter of the application of Zapata Petroleum Corporation for two additional injection wells, Maljamar Pool, Lea County, New Mexico.

MR. UTZ: Are there any appearances?

MR. RUSSELL: I am John F. Russell, Campbell and Russell, appearing on behalf of the Applicant, and I have one witness, Mr. Huddleston.

(Witness sworn)

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING - ELVIS A. UTZ

SANTA FE, NEW MEXICO

REGISTER

HEARING DATE APRIL 25, 1962 **TIME:** 9 A.M.

NAME:	REPRESENTING:	LOCATION:
John J Russell	Zapata	
Lewis R Huddleston	Zapata	
J. R. Encoe Jr.	Amerada Pet Corp	Midland, Texas
A E Snyder	Amerada Pet. Corp	Monument, New Mex
Jason Kellahin	Kellahin & Fox	Santa Fe.
Ralph L Gray	Hudson	Artesia, N. M.
Jim Sperling	British american Oil Producing Co.	Albuquerque
H. A. Hudson	Amerada	Tulsa
H D Bushnell	Amerada	Tulsa
A. L. Porter	OCC	Santa Fe,
R. L. Gilbert	Continental Oil Co	Roswell N. M.
Frank E. Irby	State Engineer	Santa Fe.
W. J. [illegible]	[illegible]	[illegible]
J. W. Ward	G. W. Strake	Winters, Texas
Floyd Ashlin	Perry R. Bass	Ft. Worth, Tex.
Lynn Eaton	Pan American	Farmington
		Roswell

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING - ELVIS A. UTZ

SANTA FE , NEW MEXICO

REGISTER

HEARING DATE APRIL 25, 1962 **TIME:** 9 A.M.

NAME:	REPRESENTING:	LOCATION:
Geo L Verity	SW Prod	Farmington
R H Vich	T P C & O Co	Ft Worth Tex.
V Oiwiederkehr	Southwest Production	Farmington
[illegible]	British American	Midland, Texas
G. B. Judd	" "	Dallas Tex.

MR. RUSSELL: Mr. Examiner, this is an extension, actually, of a prior Hearing and I would like to ask that the transcript in Case Number 2458 and Order R-2157 which was entered therein be incorporated and made a part of the record in this case.

MR. UTZ: Without objection, the transcript in Case 2458 will be entered into the record in this case.

KENNETH R. HUDDLESTON,

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

DIRECT EXAMINATION

BY MR. RUSSELL:

Q Will you please state your name?

A Kenneth R. Huddleston.

Q Where do you live, Mr. Huddleston?

A In Midland, Texas.

Q By whom are you employed and in what capacity?

A Zapata Petroleum Corporation, Engineer.

Q Have you previously qualified to testify before this Commission?

A Yes, I have.

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

MR. UTZ: Yes, sir, they are.

Q (By Mr. Russell) Are you familiar with the application of Zapata in this case?

A Yes, sir, I am.

(Whereupon, Applicant's Exhibit No. 1 Marked for Identification)

Q I hand you what has been identified as Exhibit No. 1 and ask you to state what that is.

A This is a plat of the east part of the Maljamar field. The acreage shown in red is our Phillips 8-B Lease. The two wells circled in red are the proposed injection wells.

Q Is that all one lease?

A Yes, it is.

Q Is your company the operator of the lease?

A Yes.

Q What are the blue circles on this exhibit?

A The blue circles are the wells that we previously requested for injection wells on the Western State Lease.

Q They were approved, were they not?

A That's correct.

Q What are the yellow ones to the north?

A Those are the injection wells that were approved at the same time for Murphy Baxter, the green wells are Great Western injection wells that were approved at the same time and the purple wells are the Water Flood Associates injection wells.

Q Have you made some studies of the wells on this lease with regard to their completion and production records, history?

A Yes, sir.

(Whereupon, Applicant's Exhibit No. 4 Marked for Identification)

Q Have you made a test of these wells on this lease recently to determine the present producing status of each of the wells situated upon the lease?

A Yes, sir, I have. We test the wells once each month.

Q I hand you what has been identified as Exhibit 4 and ask you to state if that is that compilation?

A Yes. These are the tests taken in March this year.

Q 1962?

A That's correct.

Q Now I notice on Exhibit 4 that your Well Number 12 is presently flowing and producing 24.20 barrels of oil per day. Do you anticipate that the production on that well will continue to decline?

A Well, the well now is just barely flowing and I anticipate that it will certainly be down below the ten barrels a day at the time that the flood is expanded to include it.

Q Mr. Huddleston, you testified in the prior case in which mention was made of, I believe it was Well Number 16 which had a fairly high production at that time -- could you tell the Commission at this time whether the production on that particular well has remained constant or declined?

A I believe at that time the tests were taken in October, the well had made 36 barrels and our most recent --

MR. UTZ: Excuse me, which well was that?

MR. RUSSELL: Well Number 16 on the prior Hearing.

A This was the previous Hearing.

MR. UTZ: It's not shown on the map?

A It's in the Unit E of Section 20.

MR. UTZ: Thank you.

A Our most recent test on it, it had dropped to 28 barrels and we have had to swab it numerous times recently to keep it flowing and I'm sure we'll put it to pumping in the near future.

Q (By Mr. Russell) Based upon your knowledge of the decline of primary production from these wells since they have been completed on the lease, do you anticipate there will be a steady decline in the producing rate of the wells which have been referred to?

A Yes, sir, I do.

Q What is the average production per well on this lease based upon the tests as exhibited by Exhibit 4?

A These tests will add up to a little over 150 barrels, there are 15 wells so the average is about 10.1 or something like that.

Q Do you believe that within the time required to get the reaction from the injection wells with water that these wells will average below ten barrels per day?

A Yes, sir, I do because we have had one month, February of 1962, that we only produced 4300 barrels and at that time that

was less than 10 barrels a day per well.

(Whereupon, Applicant's Exhibit No. 5 Marked for Identification)

Q Mr. Huddleston, based on the primary oil production, have you prepared a decline curve for this lease that's involved in this application?

A Yes, sir. We prepared a decline curve and extrapolated what we thought.

Q I hand you what has been identified as Exhibit Number 5 and ask you if that is that decline curve?

A Yes, sir, that's correct.

Q Do you believe that your projection of the anticipated further decline in production is a reasonable projection based upon the primary production of these wells?

A Yes, I do.

Q Have you made any calculations with regard to the estimated primary and water flood reserves and the possible ultimate recovery both of the primary and the water flood?

A Yes, sir.

(Whereupon, Applicant's Exhibit No. 6 Marked for Identification)

Q I hand you what has been marked for identification as Exhibit Number 6 and ask you if that is your calculation?

A Yes, sir, this is correct.

Q Will you explain, briefly, to the Examiner the basis for the calculation of your reserves and the data that you have had

available to make these calculations?

A Well, of course, the cumulative production is indicated there, what we have produced to the first of April, 1962, the remaining primary was arrived at by an extrapolation of this decline curve giving an ultimate primary reserves of 759,708 barrels of oil.

Q That's for the primary reserves?

A That's correct.

Q What have you calculated for the water flood reserves?

A We think that the water flood reserves will be 759,194 which is approximately one hundred percent times ultimate primary.

(Whereupon, Applicant's Exhibit No. 7 Marked for Identification)

Q I hand you what has been marked as Exhibit Number 7 and ask you what that exhibit is?

A This is a casing record of the two proposed injection wells showing the size and weight and grade of the surface and production casing and the amounts of cement with which they're cemented.

Q Referring to that exhibit, will you state to the Examiner what it reflects with regard to cement that was used in the completion of these two wells?

A Well, we circulated cement on the surface pipe and run temperature survey which indicated the tops of the cement on the oil string.

Q Is that for both of the wells?

A Yes, sir. That's correct.

Q Do you have available for the Examiner logs on the two proposed injection wells?

A Yes, sir.

(Whereupon, Applicant's Exhibit No. 8-A and 8-B Marked for Identification)

Q I hand you what has been marked as Exhibit 8-A and ask you which well log this is?

A This is the well log on the Phillips 8-B Number 5 located in Unit B.

Q I hand you Exhibit 8-B and ask you to identify that one.

A This is the Phillips 8-B Number 3 located in Unit H.

Q What have you shown on these logs, Mr. Huddleston?

A The intervals that were perforated and from which the wells are producing are shown in red opposite the respective zone on the large scale.

(Whereupon, Applicant's Exhibit No. 9 Marked for Identification)

Q I hand you what has been identified as Exhibit Number 9 and ask you to explain what that exhibit is.

A This is the log on Well Number 4, Phillips 8-B, it's located in Unit A of Section 19. This will be the five spot well.

Q Mr. Huddleston, what rate do you intend to inject water in these injection wells, initially, from the fill-up?

A We initially planned to inject water at about 400 barrels per day per well until we reached fill-up. Thereafter, why, we will probably inject between 150 and 300 barrels a day, of course, conforming to Rule 701.

Q You do propose to operate within the provisions of statewide Rule 701?

A Yes, sir, we do.

Q And in the same manner as under your prior application in Case Number 2458 which was approved?

A Yes, sir.

Q What is the source of the water for this project?

A We're currently negotiating with Caprock Water Company for purchase of water from them.

(Whereupon, Applicant's Exhibit No. 10 Marked for Identification)

Q Now I believe in Case 2458 you indicated that the source of supply for water for this project would be Yucca Water Company, did you not?

A Yes, sir, that's correct, but we favor the contract that was offered by Caprock.

Q In other words, the source of water, now, for the entire project including this one, if approved, will be from Caprock Water Company?

A Yes, sir. That's correct.

Q Have you had an analysis made for you of that water?

A Yes, sir.

Q I refer you to Exhibit Number 10 and ask you if that is the analysis which has been furnished to you?

A Yes, sir, that's correct. This was furnished to us by Caprock Water Company.

Q And in connection with your statement that Caprock Water Company will furnish the water for this entire project, I hand you what has been identified as Exhibit Number 11 and ask you what that is.

(Whereupon, Applicant's Exhibit No. 11 Marked for Identification)

A This is a letter from Caprock stating that they are agreeable to furnish us water for this project.

Q Have they indicated as to when they will be able to furnish you with this water?

A Yes. They've indicated that they would have water available within six weeks from the time that we execute the contract.

Q Has the contract been executed as yet?

A I anticipate that it will be executed this week.

(Whereupon, Applicant's Exhibit No. 12 Marked for Identification)

Q I hand you what has been identified as Exhibit 12 and ask you what that is.

A This is a letter from Murphy H. Baxter, stating that he has no objection to our putting these wells on injection.

Q Mr. Huddleston, based upon the information that you have furnished the Examiner and upon your knowledge of the specific properties and wells in question here, do you think that the institution or addition of this to your pilot water flood program will be in the best interest of conservation?

A Yes, I do, otherwise this all would be lost.

Q Were all of these exhibits prepared by you or under your direction?

A Yes, sir.

Q Now, Mr. Huddleston, referring back to Exhibit Number 1, referring to your Phillips lease in the south half of 17 and the north half of 20 which have been previously approved for a pilot project, has any injection of water been started in this project?

A We are currently building the plant. We have not actually started the injection of water.

Q Now, referring again to Exhibit Number 4 which is the well test and specifically to Well Number 12, how long do you anticipate it would be after you start your project that there would be a response in that well?

A Oh, it will be over a year before I think the response reaches out to this well.

Q Based upon your knowledge of these wells and production history, in your opinion will the production of that well be considerably less than is shown on this exhibit?

A Yes, sir.

MR. RUSSELL: I would like to offer into evidence Exhibits Numbers 1 through 12.

MR. UTZ: Without objection, Exhibit Number 1 through 12 will be entered into this case.

(Whereupon, Applicant's Exhibits Nos. 1 through 12 received into Evidence.)

MR. RUSSELL: I have no further questions of the witness, Mr. Examiner.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Huddleston, has any of this water been injected in any of these injection wells in this project?

A To my knowledge we're further along with our construction of our plant than anyone else up there and we have just begun to construct our plant.

Q So actually this would be just an extension to your previous request for initial water flooding?

A Yes, sir. We were purchasing some outstanding working interest in Section 19 at the time of the previous Hearing, was the reason that we didn't include it in the original Hearing.

Q Referring to Exhibit 6, your first portion of that Exhibit, I see at the top of the page where you use porosities and connate water and so forth and you arrived at barrels per acre foot; were those arrived at through analyses of cores or logs?

A Yes, sir. We cored, I believe, 13 of those 15 wells that

were drilled on that lease. We have excellent engineering data for those.

Q Still, in the calculation of your recoverable reserves you have used the pressure decline method?

A Yes, sir. I still prefer it over volumetric calculations.

Q With reference to your Exhibit Number 7, on the extension of the injection wells, I note that behind the 5½ inch casing on the Number 3 Well you would have something like 2,287 feet open?

A Yes.

Q On the Number 5 Well, something like 3,265 feet open?

A Yes, sir.

Q Are there any producing zones behind the pipe in this interval?

A No, sir.

Q Are there any fresh water zones?

A To my knowledge, there are not.

Q In other words, in your opinion no damage will incur by leaving this open behind the pipe for this interval?

A That's correct. We plan to, of course, inject water down tubing beneath the packer.

Q What size tubing do you intend to use?

A 2 inch.

Q 2 inch?

A Yes, sir.

MR. UTZ: Are there any other questions of the witness?

MR. MORRIS: Yes, sir.

BY MR. MORRIS:

Q Mr. Huddleston, have any efforts been made to unitize in this area?

A Other than some informal discussions, no.

Q Any efforts that were made fell through in the initial stages?

A Right.

Q Would it be your intention to continue your pattern here as a five spot and put on injection wells Number 7 and 10 at a later time?

A Yes. I'm sure that that's, of course, in compliance with Rule 701 if that's where we get response.

Q Yes?

A Yes.

Q I note from the logs that you have your intervals perforated over a range of several hundred feet in your Well Number 4 as well as in your two proposed injections wells. Are the areas between your perforated intervals here impermeable zones?

A Yes, sir, they are.

Q Relatively?

A They definitely are. We selected and treated those zones and we had no indication of communication at all.

Q Referring now to the zones that you have perforated

which pretty well line up with each other on these three logs, do you find that the different zones of different porosities and permeabilities, do those zones vary quite a bit?

A They will correlate on the lease, the thickness and porosities and permeabilities will vary.

Q Will they vary substantially?

A No, I believe that we'll be able to effectively flood most of them.

Q Within one well, referring to the different perforated intervals, do those intervals vary in porosity and permeability?

A Only in the case of the San Andres. We had some high permeability in some of the San Andres zones.

Q Do you contemplate any problems with respect to your rate of water injection, with respect to your water all going in the more permeable zone, and little of it going to the less permeable zones?

A Yes. I anticipate that will be one of our problems. We'll just have to use plugging materials or we may have to go so far as to squeeze off some of those zones at the later date.

Q I note that your well Number 3 has a total depth, I believe, of 4,394?

A Yes, sir. That's correct.

Q In the Well Number 4 and 5, you show a perforated interval somewhere around 4,400 or a deeper perforated interval which, of course, could not be present in Well Number 3?

A The San Andres is not present in Well Number 3. We cut something like 15 feet of San Andres that was solid shale.

Q Is that going to cause your water injection pattern to give you some trouble in this area since your San Andres zone is not present?

A Well, there's no question about it, we won't get a completely effective four-way flood front.

Q You have not introduced a log, of course, on your Well Number 6 at this Hearing. I wonder if you would mind telling me if in the Well Number 6 that lower zone is present?

A Yes, it is. It's present in all of those wells except the Number 1 Well and the Number 3 Well. It's in the Southwest of the Southwest.

Q Now, if the total depth on the Number 3 was 4,394, is it your testimony that at that total depth you had penetrated what should have been the San Andres zone?

A We felt like that if we had been in the San Andres and it was going to be developed that we would have seen good, clean dolomite within, but it was one hundred percent shale.

Q In your Number 4 Well you encountered it at the depth of something like 4,500 feet, didn't you?

A Well, one of those wells is on the calf and the other one is off the calf and it makes about 75 feet difference in the drilling depth.

MR. MORRIS: That's all I have.

MR. UTZ: Any other questions of the witness?

These two injection wells that you are requesting to be approved here, do have casing set through the injection zone and selectively perforated, is that true?

A Yes, sir, they do, Mr. Utz.

MR. UTZ: The witness may be excused.

(Witness excused.)

MR. UTZ: Are there any statements in this case?

The case will be taken under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, New Mexico, do hereby certify that the foregoing and attached transcript of Hearing was reported by me in stenotype and that the same was reduced to typewritten transcript under my personal supervision and contains a true and correct record of said proceedings to the best of my knowledge, skill and ability.

NOTARY PUBLIC

My Commission Expires:

June 19, 1963

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2532, heard by me on Jan. 25, 1962.

....., Examiner
New Mexico Oil Conservation Commission

EXAMINER U
EXHIBIT NO. 2
CASE NO. 253

WELL COMPLETION DATA

Zapata Petroleum Corporation
Phillips - State "B" Lease
Maljamar Field Lea County, New Mexico

Well No.	Completion Date	Total Depth	Plugged Back T.D.	Casing Size Inches	Casing Depth Feet	Completion Method	Completion Interval Feet	Well Treatment At Completion	Initial Pot Oil B/D	Initial Pot Water Bbls.
1	1-21-58	4360	4328	5 1/2	4359	Perforations	4034-4048 4076-4094 4157-4167 4228-4240	20,000 gals. 7 1/2% acid w/10,000# sand	49.4	3.6
2	1016-58	4416	4384	5 1/2	4412	Perforations	4324-4348 4054-4067 4120-4140 4154-4180 4194-4200 4211-4228 4248-4260	3,000 gals. 15% LST NE acid treated w/30,000 gals. 15% acid w/15,000# sand	55.2	3.9
3	1-13-58	4421	4391	5 1/2	4420	Perforations	4080-4092 4113-4128 4144-4154 4168-4173 4180-4190 4247-4252	25,000 gals. 7 1/2% acid 2/12,500# sand	44.3	1.2
4	5-3-58	4586	4562	5 1/2	4585	Perforations	4166-4174 4203-4209 4261-4269 4294-4316 4487-4503	30,000 gals. acid 2/15,000# sand	142.3	2.5
5	6-15-58	4458	4430	5 1/2	4457	Perforations	4080-4090 4118-4130 4172-4180 4204-4232 4378-4408	28,000 gals. acid w/15,000# sand	88.2	4.1

EXAMINER UTZ
EXHIBIT NO. 2
CASE NO. 2332

WELL COMPLETION DATA

Zapata Petroleum Corporation
Phillips - State "B" Lease
Maljamar Field Lea County, New Mexico

Total Depth	Plugged Back T.D.	Casing Size Inches	Casing Depth Feet	Completion Method	Completion Interval Feet	Well Treatment At Completion	Initial Potential Oil B/D	Initial Potential Water Bbls.	Initial Potential GOR Cu. Ft./Bbl.
4360	4328	5 1/2	4359	Perforations	4034-4048 4076-4094 4157-4167 4228-4240	20,000 gals. 7 1/2% acid w/10,000# sand	49.4	3.6	
4416	4384	5 1/2	4412	Perforations	4324-4348 4054-4067 4120-4140 4154-4180 4194-4200 4211-4228 4248-4260	3,000 gals. 15% LST NE acid treated w/30,000 gals. 15% acid w/15,000# sand	55.2	3.9	
4421	4391	5 1/2	4420	Perforations	4080-4092 4113-4128 4144-4154 4168-4173 4180-4190 4247-4252	25,000 gals. 7 1/2% acid 2/12,500# sand	44.3	1.2	
4586	4562	5 1/2	4585	Perforations	4166-4174 4203-4209 4261-4269 4294-4316 4487-4503	30,000 gals. acid 2/15,000# sand	142.3	2.5	
4458	4430	5 1/2	4457	Perforations	4080-4090 4118-4130 4172-4180 4204-4232 4378-4408	28,000 gals. acid w/15,000# sand	88.2	4.1	

WELL COMPLETION DATA

Well No.	Completion Date	Total Depth Feet	Plugged Back	Casing Size Inches	Casing Depth Feet	Completion Method	Completion Interval Feet	Well Treatment At Completion	Initia Oil B/D	Initia Wa Bb
6	2-26-58	4410	4389	5 1/2	4409	Perforations	4098-4104 4134-4140 4157-4166 4169-4181 4322-4350	25,000 gals. 7 1/2% acid w/12,500# sand	406.8	8.
7	2-11-58	4390	4355	5 1/2	4390	Perforations	4108-4116 4181-4191 4202-4220 4230-4250 4320-4350	3,000 gals. 15% acid	65.8	4
8	4-15-58	4340		5 1/2	4259	Open Hole	4259-4340	10,000 gals. 15% acid w/5,000# sand	148	3
9	3-16-58	4375	4340	5 1/2	4374	Perforations	4120-4130 4146-4154 4170-4178 4296-4330	25,000 gals. acid w/12,500# sand	152.5	4.
10		4410	4380	5 1/2	4409	Perforations	4020-4030 4056-4062 4082-4108 4290-4312 4366-4371	25,000 gals. acid 2/12,500# sand	118	4
11	7-4-58	4390	4362	5 1/2	4390	Perforations	4018-4036 4058-4074 4156-4160 4178-4184 4192-4197 4220-4235 4288-4298 4312-4336	35,000 gals. acid w/17,500# sand	41.2	1.

WELL COMPLETION DATA

tal pth et	Plugged Back	Casing Size Inches	Casing Depth Feet	Completion Method	Completion Interval Feet	Well Treatment At Completion	Initial Potential Oil B/D	Initial Potential Water Bbls.	Initial Potential GOR Cu. Ft./bl
10	4389	5 1/2	4409	Perforations	4098-4104 4134-4140 4157-4166 4169-4181 4322-4350	25,000 gals. 7 1/2% acid w/12,500# sand	406.8	8.3	
90	4355	5 1/2	4390	Perforations	4108-4116 4181-4191 4202-4220 4230-4250 4320-4350	3,000 gals. 15% acid	65.8	4.2	
40		5 1/2	4259	Open Hole	4259-4340	10,000 gals. 15% acid w/5,000# sand	148	3	
75	4340	5 1/2	4374	Perforations	4120-4130 4146-4154 4170-4178 4296-4330	25,000 gals. acid w/12,500# sand	152.5	4.6	
10	4380	5 1/2	4409	Perforations	4020-4030 4056-4062 4082-4108 4290-4312 4366-4371	25,000 gals. acid 2/12,500# sand	118	4	
90	4362	5 1/2	4390	Perforations	4018-4036 4058-4074 4156-4160 4178-4184 4192-4197 4220-4235 4288-4298 4312-4336	35,000 gals. acid w/17,500# sand	41.2	1.1	2,480

WELL COMPLETION DATA

Well No.	Completion Date	Total Depth Feet	Plugged Back T. D.	Casing Size Inches	Casing Depth Feet	Completion Method	Completion Interval Feet	Well Treatment At Completion	Initial P Oil B/D	Initial P Water Bbls.
12	8-23-58	4390	4356	5 1/2			4054-4060 4108-4118 4143-4150 4154-4163 4172-4176 4187-4197 4203-4214 4218-4235 4302-4319	37,000 gals. acid w/18,500# sand		
13	5-29-58	4619	4345	5 1/2	4500	Perforations	3984-3990 4058-4067 4082-4097 4122-4136 4148-4157	23,500 gals. acid w/11,750# sand	84.2	3.3
14	7-18-58	4325	4298	5 1/2	4325	Perforations	3962-3976 4040-4048 4086-4096 4148-4166 4170-4180 4219-4229 4238-4266	26,000 gals. acid w/13,000# sand	56.2	4.3
15	8-4-58	4291	4291	5 1/2	4228	Perforations Open Hole	4044-4062 4066-4084 4094-4112 4144-4152 4160-4164 4228-4291	30,000 gals. acid w/15,000# sand	41.3	2.7

WELL COMPLETION DATA

Total Depth Feet	Plugged Back T. D.	Casing Size Inches	Casing Depth Feet	Completion Method	Completion Interval Feet	Well Treatment At Completion	Initial Potential Oil B/D	Initial Potential Water Bbls.	Initial Potential GOR Cu. Ft./Bbl.
4390	4356	5 1/2			4054-4060 4108-4118 4143-4150 4154-4163 4172-4176 4187-4197 4203-4214 4218-4235 4302-4319	37,000 gals. acid w/18,500# sand			
4619	4345	5 1/2	4500	Perforations	3984-3990 4058-4067 4082-4097 4122-4136 4148-4157	23,500 gals. acid w/11,750# sand	84.2	3.3	
4325	4298	5 1/2	4325	Perforations	3962-3976 4040-4048 4086-4096 4148-4166 4170-4180 4219-4229 4238-4266	26,000 gals. acid w/13,000# sand	56.2	4.3	
4291	4291	5 1/2	4228	Perforations	4044-4062 4066-4084 4094-4112 4144-4152 4160-4164	30,000 gals. acid w/15,000# sand	41.3	2.7	
				Open Hole	4228-4291				

ZAPATA PETROLEUM CORPORATION
MONTHLY PRODUCTION
PHILLIPS STATE "B" LEASE
MALJAMAR FIELD
LEA COUNTY, NEW MEXICO

1958	
Jan.	423
Feb.	2,234
Mar.	6,225
Apr.	7,090
May	8,994
June	10,026
July	12,710
Aug.	15,124
Sept.	16,355
Oct.	16,238
Nov.	15,288
Dec.	15,527

1959	
Jan.	16,172
Feb.	14,975
Mar.	15,808
Apr.	15,583
May	14,584
June	13,461
July	14,112
Aug.	14,091
Sept.	11,979
Oct.	14,184
Nov.	12,185
Dec.	12,508

1960	
Jan.	11,803
Feb.	10,900
Mar.	10,446
Apr.	9,742
May	9,242
June	8,688
July	8,630
Aug.	8,205
Sept.	7,156
Oct.	7,608
Nov.	6,886
Dec.	6,594

1961	
Jan.	7,261
Feb.	6,213
Mar.	6,286
Apr.	5,692
May	5,768
June	5,648
July	5,193
Aug.	5,940
Sept.	5,339
Oct.	5,239
Nov.	5,221
Dec.	5,016

1962	
Jan.	5,052
Feb.	4,345
Mar.	5,351

Cumulative 4-1-62 - 485,904

ZAPATA PETROLEUM CORPORATION
WELL TESTS
PHILLIPS STATE "B" LEASE
MALJAMAR FIELD
LEA COUNTY, NEW MEXICO

Well No.	Date of Test	Producing Method	Oil Bbl/day	Water Bbl/day	GOR Ft^3/bbl
1	3-7	Pump	2.28	0	1945
2	3-8	Pump	14.82	0	3390
3	3-9	Pump	5.13	0	4440
4	3-14	Pump	10.96	0	3140
5	3-15	Pump	9.74	0	3390
6	3-16	Pump	10.26	0	3200
7	3-17	Pump	10.26	0	2750
8	3-10	Pump	7.98	0	3840
9	3-13	Pump	10.20	0	3650
10	3-18	Pump	14.82	0	3020
11	3-19	Pump	14.82	0	3020
12	3-20	Flow	24.20	0	1950
13	3-22	Pump	10.26	0	4370
14	3-23	Pump	6.56	0	6400
15	(Shut-in)				

ZAPATA PETROLEUM CORPORATION
ESTIMATED RESERVOIR AND RECOVERY DATA
PHILLIPS STATE "B" LEASE
MALJAMAR FIELD
LEA COUNTY, NEW MEXICO

Grayburg - San Andres

	Barrels Per Acre-Foot
Total pore space for 11.5% porosity	892.2
Connate water saturation (35%)	312.3
Original oil saturation (65%)	579.9
Formation volume factor (1.2)	
Original STO in place	483.2
Primary oil produced to 4-1-62	29.7
Remaining primary oil	15.2
Waterflood oil reserves	47.1
Residual oil after waterflooding (42.8% of pore space)	391.2

Primary Reserves

Area	505 acres
Average net pay	32 ft.
Primary acre-feet	16,200
Cumulative to 4-1-62	485,904 BO
Remaining primary reserves	273,804 BO
Ultimate primary reserves	759,708 BO

Waterflood Reserves

Area	538 acres
Average net pay	30 ft.
Waterflood acre-feet	16,140
Waterflood recovery per acre-foot	47.1
Ultimate waterflood reserves	759,194 BO

ZAPATA PETROLEUM CORPORATION

CASING RECORD
Proposed Injection Wells
Phillips State "B" Lease
Maljamar Field - Lea County, New Mexico

Well No.	Location Unit	Location S-T-R	Total Depth	Date Completed	Perforated Intervals	SURFACE CASING Size	Weight	Grade	Depth	Sx. Cement	PRODUCTION CASING Size	Weight	Grade	Depth	Sx. Cement	Top Cement
3	H	19-17-33	4421	1-26-58	4080-4092 4113-4128 4144-4154 4168-4173 4180-4190 4247-4252	8-5/8"	24#	J-55	338	175 Circ.	5½	15.5	J-55	4420	150	3625
5	B	19-17-33	4458	6-20-58	4080-4090 4118-4130 4172-4180 4204-4232 4378-4408	8-5/8"	24#	J-55	365	175 Circ.	5½	15.5	J-55	4457	150	3630

EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 7
CASE NO. 2532

ZAPATA PETROLEUM CORPORATION

CASING RECORD
Proposed Injection Wells
Phillips State "B" Lease
Maljamar Field - Lea County, New Mexico

Total Depth	Date Completed	Perforated Intervals	SURFACE CASING Size	Weight	Grade	Depth	Sx. Cement	PRODUCTION CASING Size	Weight	Grade	Depth	Sx. Cement	Top Cement
4421	1-26-58	4080-4092 4113-4128 4144-4154 4168-4173 4180-4190 4247-4252	8-5/8"	24#	J-55	338	175 Circ.	5½	15.5	J-55	4420	150	3625
4458	6-20-58	4080-4090 4118-4130 4172-4180 4204-4232 4378-4408	8-5/8"	24#	J-55	365	175 Circ.	5½	15.5	J-55	4457	150	3630

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 10
CASE NO. 2532

TREAT-RITE WATER LABORATORIES

INCORPORATED
BOX 848 - MONAHANS, TEXAS

RESULT OF WATER ANALYSES

LABORATORY NO. 16596

TO: Mr. Bert Murphy
3017 Lubbock Ave., Ft. Worth 9, Texas

SAMPLE RECEIVED 6-2-59
RESULTS REPORTED 6-10-59

COMPANY Waterflood Associates, Inc. LEASE Caprock Water Company
FIELD OR POOL 3 inch line from the Caprock to city of Loco Hills
SECTION _____ BLOCK _____ SURVEY _____ COUNTY Lea & Eddy STATE NM

SOURCE OF SAMPLE, AND DATE TAKEN:

NO. 1 Water - taken from Raw Water Supply at edge of Cap. 6-2-59
NO. 2 Water - taken from Skelly Camp residence approx. midpoint of 3" line.6-2-59
NO. 3 Water - taken from truck loading storage at Loco Hills at end of 3" line. 6-2-59
NO. 4 _____

REMARKS: _____

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
SPECIFIC GRAVITY AT 60°F.	1.0008	1.0006	1.0007	
PH WHEN SAMPLED	7.7	7.6	7.5	
PH WHEN RECEIVED	7.7	7.6	7.5	
TOTAL ALKALINITY AS CACO3	176	156	160	
SUPERSATURATION AS CACO3	4	-	0	
UNDERSATURATION AS CACO3	-	4	-	
TOTAL HARDNESS AS CaCO3	188	162	164	
CALCIUM AS CACO3	147	127	128	
MAGNESIUM AS CACO3	41	35	36	
SODIUM AND/OR POTASSIUM				
SULFATE AS SO4	35	32	29	
CHLORIDE AS NA CL	42	45	47	
SILICA AS SIO2	12.1	12.2	12.5	
IRON AS FE	0.36	0.20	0.12	
MANGANESE AS MN				
BARIUM AS BA	none	none	none	
TURBIDITY ELECTRIC	1.3	1.9	1.3	
COLOR AS PT	1.5	1.5	0.8	
DISSOLVED SOLIDS AT 103 °C				
TOTAL SOLIDS AT 103 °C.				
TEMPERATURE °F.	68	75	75	
CARBON DIOXIDE CALCULATED	7.5	8.0	10.1	
DISSOLVED OXYGEN WINKLER	8.2	7.2	8.4	
HYDROGEN SULPHIDE	none	none	none	
RESIDUAL CHLORINE	none	none	none	
RESISTIVITY OHMS/CC	2,000	2,100	2,100	

NOTE: All Results Reported as Parts Per Million. Divide by 17.1 to Convert to Grains Per Gallon

Additional Determinations and Remarks The above analyses are considered sufficiently substantial evidence that this water can be satisfactorily transferred through a bare steel line. A thin protective calcium carbonate scale is anticipated which should greatly reduce corrosion. The transferred water should not require plant filtration, but wellhead filters are recommended, as a small amount of insoluble iron will undoubtedly be encountered. These conclusions are based on anticipated reasonable similarity of the above with the water from the wells to be drilled. Contact me for any further details or discussions.

cc: Hal Porter
P. O. Box 495, Artesia, NM

By _____
Dylan C. Martin, B. A.

EXHIBIT No. 10

TREAT-RITE WATER LABORATORIES, INC.

WATER CONSULTANTS SINCE 1936

BACTERIAL AND CHEMICAL ANALYSIS

P. O. BOX 548 PHONE WI 3-4781

MONAHANS, TEXAS

To: Mr. Bert Murphy
3017 Lubbock Avenue
Fort Worth 9, Texas

Laboratory No. BM6596
Samples received 6-2-59
Results reported 6-12-59

Company: Waterflood Associates, Inc.
County: Lea & Eddy, N.M.
Field: 3 inch line from the Caprock to city of Loco Hills
Lease: Caprock Water Company at Loco Hills

Source of sample and date taken:
#1. Water - taken from truck loading storage at Loco Hills at end of 3 inch line. 6-2-59

	#1
Iron bacteria	Not detected
Sulfur bacteria	65
Sulfate-reducing bacteria	Not detected
Other aerobes	53*
Other anaerobes	Not detected
Fungi (& aciduric bacteria)	9
Algae	Not detected
Protozoa	Not detected
Total count	127
pH	7.5
Temperature	75
Chlorine residual	none

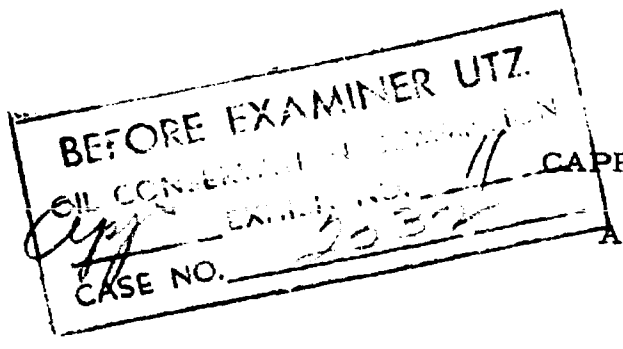
Note: All numerical results are reported as the number of cells per cubic centimeter of the sample as determined by plate counts; except iron, algae, and protozoa, which are determined microscopically.
*Organisms which show potential slime-forming characteristics on culture media.

Remarks: The above results are considered substantial confirmation that bacterial activity will give no interference with the conclusions drawn on Chemical Analysis Number M6596. To the best of my recollection you wanted one bacterial, however, for research purposes we made counts on the other samples which showed to be essentially identical to the above.

Waylan C. Martin, M. A.

Analysis by
Bruce Hughes, M. A.

cc: Hal Porter, Artesia, N. M.



CAPROCK WATER COMPANY
P. O. Box 607
Artesia, New Mexico

April 19, 1962

Zapata Petroleum Corporation
P. O. Box 3195
Midland, Texas

Re: Injection water - Your project
located in Section 19, T-17-S,
R-33-E, Lea County, New Mexico.

Gentlemen:

In accordance with our conversation, we wish to inform you that we are agreeable to furnishing injection water for the subject project under our standard water sales contract. We can have this water available for you within six weeks after the execution of the agreement.

Yours very truly,

CAPROCK WATER COMPANY

By: H. N. Morgan
Harold N. Morgan

BHM:dk

MURPHY H. BAXTER
507 MIDLAND NATIONAL BANK BUILDING
MIDLAND, TEXAS

April 24, 1962

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

RE: New Mexico Oil Conservation
Commission Case No. 2532.

Gentlemen:

As owner and operator of oil and gas leases described as the E/2 and SW/4 of Section 18, Township 17, Range 33, Maljamar Field, Lea County, New Mexico, I would like to advise that I am familiar with the above referred to case in which Zapata Petroleum Corporation requests to expand its pilot waterflood project authorized by your Order R-2157.

I would further like to advise that I have no objection to the Commission's approving this request.

Very truly yours,

Murphy H. Baxter

MHB:wm

2532

ZAPATA PETROLEUM CORPORATION
CASING RECORD
PROPOSED INJECTION WELLS
PHILLIPS STATE B LEASE
MALJAMAR FIELD
LEA COUNTY, NEW MEXICO

WELL NO.	KDB ELEV.	TOTAL DEPTH	HOLE SIZE	PERFORATED INTERVALS	SURFACE CASING			PRODUCTION CASING		
					SIZE	DEPTH	SXS.CEMENT	SIZE	DEPTH	SXS.CEMENT
3	4166'	4421'	7-7/8"	4080-4092' 4113-4128' 4144-4154' 4168-4173' 4180-4190' 4247-4252'	8-5/8"	348'	175 & cir.	5-1/2"	4420'	150
5	4163'	4458'	7-7/8"	4080-4090' 4118-4130' 4172-4180' 4204-4232' 4378-4408'	8-5/8"	354'	175 & cir.	5-1/2"	4457'	150

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

April 23, 1962

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

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

Dear Mr. Porter:

Mr. Kenneth R. Huddleston of Zapata Petroleum Corporation, Midland, Texas has replied to my inquiries concerning their application which was submitted to you under date of April 10, 1962 which seeks permission to convert their Phillips State "B"-3, Unit H and Phillips State "B"-5, Unit B to water injection wells. Copies of the correspondence among Mr. Huddleston, his attorney and me are enclosed for your information.

In view of Mr. Huddleston's statement....."the water will be injected down tubing and beneath packers. There will never be any pressure on the casing at any time." it appears that no threat of contamination to any fresh water which may exist in this area will occur. Therefore, this office offers no objection to the granting of this application.

Yours truly,

S. E. Reynolds
State Engineer

By: Frank E. Irby
Frank E. Irby
Chief
Water Rights Division

FEI/ma
cc-F. H. Hennighausen
Kenneth R. Huddleston
John F. Russell

April 12, 1962

Mr. John F. Russell
Attorney at Law
P. O. Drawer 640
Roswell, New Mexico

Dear Mr. Russell:

Reference is made to the application of Zapata Petroleum Corporation which seeks to convert two oil wells to water injection wells for the purpose of secondary recovery in the Maljamar Field, a copy of which you submitted to this office on April 9, 1962.

Before reaching an opinion concerning this matter, it will be necessary for me to have the following information:

1. Does the applicant plan to inject through the existing casing, or will the injection be through tubing under packer?

   (a) If the injection is to be through tubing under a packer, the following questions need not be answered.

2. What is the age and condition of the casing?

3. At what pressure and rate will injection be made?

4. Will the system be closed?

5. Will water be recycled?

6. Will treatment be necessary?

7. Is the casing set and cemented into the salt section in each case and if so, to what depth in the salt?

I bring up these points at this time in order that your client may be prepared to answer them at the hearing, or if convenient, answer them prior to the hearing.

FEI/ma

Very truly yours,

S. E. Reynolds
State Engineer

By:
Frank E. Irby, Chief,
Water Rights Division.

COPY

ZAPATA PETROLEUM CORPORATION
BOX 2185
PHONE MUTUAL 2-7316
MIDLAND, TEXAS

April 21, 1962

Mr. Frank E. Irby, Chief
Water Rights Division
State Engineer Office
State Capitol
Santa Fe, New Mexico

Dear Mr. Irby:

In reply to your letter to Mr. John F. Russell, Attorney at Law, regarding Zapata's application to convert two oil wells to water injection wells for secondary recovery in the Maljamar Field, the water will be injected down tubing and beneath packers. There will never be pressure on the casing at any time.

All the casing and tubing used on this lease was purchased new in 1958.

If there is any additional information you will need regarding this application, please let us know.

Yours very truly,

Kenneth R. Huddleston

Kenneth R. Huddleston

KRH:FMcB
cc: Mr. John F. Russell
Campbell & Russell
P. O. Drawer 640
Roswell, New Mexico

Irby

LAW OFFICES OF
CAMPBELL & RUSSELL
J. P. WHITE BUILDING
ROSWELL, NEW MEXICO

JACK M. CAMPBELL
JOHN F. RUSSELL

TELEPHONES
MAIN 2-4641
MAIN 2-4642

1962 APR 20 AM 11:39

April 19, 1962

Mr. Ken Huddleston
Zapata Petroleum Corporation
Post Office Box [illegible]
Midland, Texas

Dear Mr. Huddleston:

I was in error yesterday when I stated the letter from the State Engineer's Office had been mailed to you.

I enclose the letter from Mr. Irby and suggest that the answers to his questions be sent to him direct.

Very truly yours,

CAMPBELL & RUSSELL

John F. Russell

John F. Russell

JFR:sah

Encl.

cc: Mr. Frank Irby

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