

Case Number

4348

Application
Transcripts.

Small Exhibits

ETC.

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

1

EXAMINER HEARING

IN THE MATTER OF:

Application of Yates Drilling Company
for a unit agreement, Lea County, New
Mexico.

Case No. 4347

Application of Yates Drilling Company
for a waterflood project, Lea County,
New Mexico.

Case No. 4348

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case 4347.

MR. HATCH: Case 4347. Application of Yates Drilling Company for a unit agreement, Lea County, New Mexico. Do you want Case 4348 called at the same time?

MR. UTZ: Might as well since he said he was going to combine them.

MR. HATCH: Case 4348. Application of Yates Drilling Company for a waterflood project, Lea County, New Mexico.

MR. LOSEE: Let the record show the same appearance and the same witness in the two previous cases.

MR. UTZ: Are you going to move for consolidation?

MR. LOSEE: And move for consolidation of the two cases, 4347 and 4348.

MR. UTZ: Case 4347 and 4348 will be consolidated for purposes of testimony and separate orders will be written.

(Whereupon, Applicant's Exhibits 1 through 5 were marked for identification.)

EDDIE MAHFOOD

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

DIRECT EXAMINATION

BY MR. LOSEE:

Q Mr. Mahfood, do these two cases have two purposes, one to approve the Yates Drilling Company North Vacuum (San Andres) Unit --

A That is correct.

Q -- and to approve the institution of a waterflood project within that unit area?

A That is correct.

Q Are all of the lands within this unit area owned by the State of New Mexico?

A That is correct.

Q Has your unit agreement been submitted to the State Land Office?

A Yes, sir, it has been submitted and approved in content and form.

Q Please refer to what has been marked as Exhibit 1.

A Exhibit 1 is a plat of the North Vacuum area with the unit area designated in red. Proposed injection wells are in red triangles.

Q Now, it's noted that there are also some red triangles offsetting it to the south and west.

A This is correct. These are lease line agreements with Mobil and Gulf.

Q Have they converted those wells to injection at

this time?

A No, sir. We will all convert ours at approximately the same time.

Q And does the unit have written lease line agreements with these offset operators for the conversion of these wells?

A Yes, sir, we do.

Q How many tracts are within the unit area?

A There are six tracts in the unit area.

Q Please refer to what has been marked Exhibit 2, being a copy of your unit agreement --

A Yes, sir.

Q -- and from this document, would you tell the examiner what formation is proposed to be unitized?

A We propose to unitize the upper 200 feet of the San Andres formation.

Q Now, in the unit agreement, do you refer to the log in any particular well, and, if so, would you point out the interval?

A Yes, sir. One of the exhibits that we will present later will present this log. It's in the Marathon State Bridges B No. 3. This will be tract 2, well number 3.

Q At what depth?

A The depth will be -- the top of the San Andres is at 4658 and we are unitizing the 200 feet interval from 4658 to 4858 in this well.

Q All right. What is the tract participation proposed by this form of unit agreement? It's on page 8.

What's your formula for allocating production among the tract?

A The formula is based on ultimate oil production, which is cumulative primary production plus projected remaining primary reserves.

Q All right. Now, you say by projected remaining primary reserves. How did you determine what the remaining primary reserves were under each tract?

A We took the production decline curves for each tract and extrapolated to a terminal point of 60 barrels of oil per month per lease and evaluated them on the amount of oil that would be recovered to that point.

Q Now, the resulting calculations are shown on Exhibit B to the unit for each tract, are they not --

A That is correct.

Q -- converted into a percentage of total unit production?

A That is correct.

Q What other possible perimeters did the operators consider before arriving at ultimate primary oil production?

A We considered several others; productive acres, productive acre feet, usable wells, current production, remaining primary.

Q Would you explain to the examiner why each of these other perimeters were discounted?

A It was considered that the ultimate primary would be the most representative of the ownership of this oil in place, the oil that would be recovered in the secondary operations.

Q Do you feel like this formula allocates the production among the various tracts in the unit in conformity with the oil that will actually be recovered from those tracts during secondary recovery operations?

A Yes. I think that this formula we came up with is representative, it's fair and for the protection of each tract's correlative rights.

Q Now, when is this unit effective by the terms of it which are --

A The unit will be effective the first of the month following the date that it is approved by this Commission.

Q You really mean by the Commissioner of Public

Lands, do you not, approved the first day of the month following approval by the Commissioner of Public Lands?

A I suppose so.

Q Yes.

A Yes.

Q All right. Now, with respect to commitment to the tract. Have all the working interest owners under each tract within the unit area ratified the document or executed the original?

A Yes, sir. We have 100 percent ratification of working interests.

Q All right. What about the over-ride or production interest owners?

A We have ratification from everybody but Cities Service, and they have told us they are going to ratify it. We just have not received it from them yet.

Q And they hold only an over-riding royalty interest of 9375 percent under tract number 3 --

A Correct.

Q -- and no other interest?

A That's right.

Q And, with the exception of Cities Service, everyone has ratified the unit?

A That is correct.

Q Please refer to what has been marked Exhibit 3.

MR. UTZ: Does that conclude your unit testimony?

MR. LOSEE: Yes.

MR. UTZ: Why don't we take a lunch break at this point and finish up? There will be several questions, I'm sure, on the waterflood project.

(Whereupon, a break for lunch was taken until 1:30 P.M.)

MR. UTZ: The hearing will come to order, please. You may continue with your consolidated cases.

Q (By Mr. Losee) Mr. Mahfood, please refer to what has been marked as Exhibit 3, being the diagrammatic sketches of the nine proposed injection wells in this proposed waterflood project, and generally explain what is portrayed by these sketches.

A In all instances, we had the surface casing cemented to the surface. In many cases cemented at approximately 339 in Tract 1, Number 1; 638 in Tract 2, Number 1; 654 in Tract 2, Number 4; 334 in Tract 3, Number 2; 1664 in Tract 3, Number 4; 298 in Tract 4, Number 2; 342 in Tract 4, Number 4; 338 in Tract 5, Number 2, and 1656 in Tract 6, Number 2.

This big variation here is due to change in regulations back in 1958, when they required more surface casing to be set.

Q Does it also show the production string in each instance?

A Production string in each instance had been either set all the way through the pay or to the top of the pay and with sufficient cement to cover approximately a thousand feet or more.

Q Above the --

A Above the pay.

Q All right. The only two wells, proposed injection wells, in which the pipe is set through the pay is this Tract 2 Well, Number 1, Tract 2 Well, Number 4?

A Correct.

Q The rest of it will be open hole injection?

A That's correct.

Q Is the injection proposed through tubing and packer in every instance?

A Yes, sir; through tubing and packer with inhibited water in the casing annulus, surface gauge, pressure gauge on the surface casing.

Q Is that going to be plastic coated tubing?

A The tubing will be plastic coated.

Q What's the source of your fresh water?

A The Ogallala formation on the Caprock approximately a mile and a quarter from the project area.

Q Was my question right? Is it fresh water?

A It is correct. It's fresh water, very good drinking water.

Q Will you treat the water at all?

A Yes, sir. We will treat it definitely to inhibit bacteria growth and possibly to scavenge oxygen.

Q Now, let me refer you to two wells that appear to be dual. One of them is the second one Tract 2, Well Number 1, and the other is Tract 4 Well Number 2, in which perforations are shown in the Queen Gas Sand. Referring to the first one, explain how you propose to produce gas, if such is the case, out of this zone.

A We propose to produce the gas of the casing annulus in both wells. In Tract 2, Well Number 1, the unit is purchasing this gas zone and the gas would be so directed transmission nine would start forming into place.

Q And this Gas Sand is actually not unitized by the terms of the unit agreement?

A That is correct. It is not unitized. There are no

overriding royalties on this.

Q So that settlement for the gas produced from this well will be based upon the unit working interest?

A That's correct.

Q And the royalty to the State of New Mexico?

A That is correct.

Q What about the second well, Tract 4 Well Number 2?

A Tract 4 Well Number 2, that gas will be so directed to transmission nine and there will be no comingling. There are overrides and the ownership is retained by the original owner.

Q Under that tract?

A Under that tract.

Q And settlement will be made to the owners of the lease?

A That is correct, by its original owner.

Q Refer now, if you will, to what has been marked as Exhibit 4, being certain logs of some of these injection wells, and explain what is shown by these logs.

Q I have shown the relationship between the Queen and the San Andres pay on these logs. I'm showing continuity of formation from one well to another, and also showing the relationship of the pay to the unitized area, unitized interval, pardon me.

Q It's noted that there are only four -- I'm sorry, there are eight logs here, are there not?

A There's seven.

Q I'm sorry, there's seven logs.

A Seven logs, you're right.

Q And actually, the logs --

A Two wells were not logged, proposing nine conversions, right.

Q Please refer to the tabulation shown on Exhibit 5, being the cumulative production from each well or each tract within the unit and give the total cumulative for each tract.

A The cumulative total for Tract Number 6 would be 97,872 through -- I think this should be through the first of, 1169, rather than 7168, as is shown here.

Q So that actually, your 97,872 barrels is through --

A 1169.

Q All right. What about Tract Number 5?

A Tract Number 5 through 1169, 165,321, and Tract 4 through 1169 is 215,726. Tract 3 and 3A through 1169 would be the sum of 33,641, and 64,015. Tract 2 through 1169 is 125,464. Tract 1 through 1169 would be 31,583.

Q What is the total cumulative from all six of the tracts within the project to 1169?

A 744,593.

Q All right. What is the present average rate of production from the wells within this field?

A From the twenty wells we are producing approximately twenty-five barrels per day. The January figures on Exhibit 4; is that right? --

Q Exhibit 5.

A -- Exhibit 5 was twenty-three barrels per day.

Q And that's for all the twenty wells in the unit?

A That's for all the twenty wells in the unit.

Q What's the maximum any well in that unit is producing?

A I think we have one well that's making approximately nine barrels a day.

Q And the rest of them are less than a barrel?

A Yes.

Q In your opinion, have the wells in this field reached an advanced or stripper state of depletion?

A Yes, I believe that I can answer that in the affirmative.

Q You can answer it?

A I can answer it in the affirmative.

Q Have you made a study of this field to determine the amount of oil that might be recovered by waterflooding?

A Yes, sir.

Q Do you have an estimate as to the volume of oil?

A We estimate we can recover 497,000 barrels in eight years. This is approximately fifty percent of the cumulative.

Q All right. What rate and what pressure do you propose to institute in these injection wells?

A Approximately two to three hundred barrels a day at twenty-five hundred pounds pressure.

MR. UTZ: 225?

THE WITNESS: Two hundred to three hundred barrels a day at 2500 pounds pressure.

MR. LOSEE: Were Exhibits 1 through 5 prepared by you or under your direction?

THE WITNESS: Yes, sir.

MR. LOSEE: We move the introduction of Exhibits 1 through 5.

MR. UTZ: Without objection, Exhibits 1 through 5 will be entered into the record in this case.

(Whereupon, Applicant's Exhibits 1 through 5 were admitted into evidence.)

MR. LOSEE: I have no further direct examination.

CROSS EXAMINATION

BY MR. UTZ:

Q Now, let's see. You'll have nine injection wells?

A Nine injection wells are proposed at the present

time.

Q And two of those will be injection gas duals?

A That's correct.

Q Now, will those duals also have plastic-coated tubing?

A Yes, sir.

Q So then the only difference between the duals and the others will be that the annulus will not be filled with fluid?

A That is correct. We also ask that provisions be made for this Commission to grant administratively additional conversions at a later date.

Q Now, the well name and location at the top of each one of your diagrammatic sketches is correct as to the location name and number?

A That is correct.

MR. UTZ: Any other questions?

Statements?

The case will be taken under advisement.

I N D E X

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<u>EXHIBIT</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
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STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

We, GLENDA BURKS and DAVID BINGHAM, Court Reporters
 in and for the County of Bernalillo, State of New Mexico,
 do hereby certify that the foregoing and attached Transcript
 of Hearing before the New Mexico Oil Conservation Commission
 was reported by us; and that the same is a true and correct
 record of the said proceedings, to the best of our knowledge,
 skill and ability.

Glenda Burks
 COURT REPORTER

David Bingham
 COURT REPORTER

I do hereby certify that the foregoing is
 a complete record of the proceedings in
 the hearing and hearing of Case No. 43464347
 heard by me on 3/29/70.
[Signature]
 New Mexico Oil Conservation Commission

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 4348
Order No. R-3962

APPLICATION OF YATES DRILLING COMPANY
FOR A WATERFLOOD PROJECT, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 29, 1970,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 12th day of May, 1970, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Yates Drilling Company, seeks permis-
sion to institute a waterflood project in its North Vacuum (San
Andres) Unit Area, Vacuum Grayburg-San Andres Pool, by the injec-
tion of water into the San Andres formation through nine injection
wells in Sections 1, 2, 11, and 12, Township 17 South, Range 34
East, NMPM, Lea County, New Mexico.

(3) That the applicant further seeks an administrative
procedure whereby said project could be expanded to include
additional lands and injection wells in the area of the said
project as may be necessary in order to complete an efficient
injection pattern; that said administrative procedure should
provide for administrative approval for conversion to water
injection in exception to the well response requirements of
Rule 701 E-5 of the Commission Rules and Regulations.

CASE No. 4348
Order No. R-3962

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

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

(6) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations; provided however, that the showing of well response as required by Rule 701 E-5 should not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

IT IS THEREFORE ORDERED:

(1) That the applicant, Yates Drilling Company, is hereby authorized to institute a waterflood project in its North Vacuum (San Andres) Unit Area, Vacuum Grayburg-San Andres Pool, by the injection of water into the San Andres formation through the following-described wells in Township 17 South, Range 34 East, NMPM, Lea County, New Mexico:

Unit Tract 1 - Well No. 1 - Unit M - Section 1
Unit Tract 3 - Well No. 2 - Unit O - Section 2
Unit Tract 3 - Well No. 4 - Unit G - Section 2
Unit Tract 5 - Well No. 2 - Unit M - Section 2
Unit Tract 6 - Well No. 2 - Unit E - Section 2
Unit Tract 4 - Well No. 2 - Unit G - Section 11
(A water injection and gas production dual completion)
Unit Tract 4 - Well No. 4 - Unit A - Section 11
Unit Tract 2 - Well No. 1 - Unit E - Section 12
(A water injection and gas production dual completion)
Unit Tract 2 - Well No. 4 - Unit C - Section 12

(2) That the subject waterflood project is hereby designated the Yates North Vacuum Unit Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

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CASE No. 4348

Order No. R-3962

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve expansion of the Yates North Vacuum Unit Waterflood Project to include such additional lands and injection wells in the area of said project as may be necessary to complete an efficient water injection pattern; that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

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

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

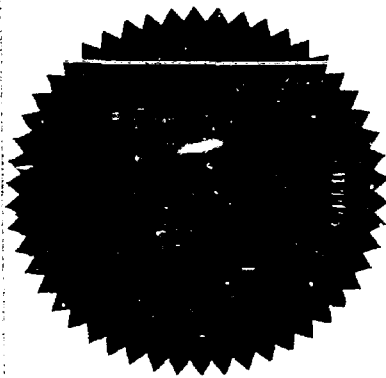
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


DAVID F. CARGO, Chairman


ALEX J. ARMIJO, Member


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



esr/

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

May 12, 1970

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

Dear Mr. Losee:

Enclosed herewith is Commission Order No. R-3962, entered in Case No. 4348, approving the Yates North Vacuum Unit Waterflood Project.

Injection is to be through the nine authorized water injection wells, each of which shall be equipped with plastic-coated tubing set in a packer. Said packers are to be located as near as is practicable to the uppermost perforation, or in the case of open-hole completions as near as is practicable to the casing-shoe. The casing-tubing annulus shall be loaded in corrosion-inhibited fluid and equipped with a pressure gauge at the surface. Exceptions to this procedure are the Tract 2, Well No. 1 and Tract 4, Well No. 2, both of which are producing gas through the casing-tubing annulus from a higher pay. In these two wells plastic-coated tubing set in a packer will suffice.

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 840 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

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

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

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

May 12, 1970

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

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

Enclosure
ALP/DSN/ir

cc: Oil Conservation Commission
Post Office Box 1980
Hobbs, New Mexico

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

ROUGH DRAFT FOR WATERFLOOD LETTERS

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

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Dear Sir:

Enclosed herewith is Commission Order No. R-3962, entered in Case No. 4348, approving the Water North Vacuum Unit Waterflood Project.

Injection is to be through the nine authorized water injection wells, each of which shall be equipped with plastic-coated tubing set in a packer. Said packers are to be located as near as is practicable to the uppermost perforation, or in the case of open-hole completions as near as is practicable to the casing shoe. The casing-tubing annulus shall be loaded in corrosion-inhibited fluid and equipped with
As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 840 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

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

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

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

cc: OCC: Hobbs X
Artesia
Aztec

~~HSGS~~

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

a pressure gauge at the surface. Exception to this procedure are the Tract 2, Well No. 1 and Tract 4, Well No. 2, both of which are producing gas through the casing-tubing annulus from a higher pay. In these two wells plastic-coated tubing set in a packer will suffice.

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 29, 1970

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

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

CASE 4340: Application of Tesoro Petroleum Corporation for three waterflood projects and unorthodox injection well locations, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute three waterflood projects in the South Hoshah Upper Sand Oil Pool by the injection of water through nine injection wells to be drilled at unorthodox locations in Section 1, Township 17 North, Range 9 West, and in Sections 6 and 7, Township 17 North, Range 8 West, McKinley County, New Mexico. Applicant further seeks a procedure whereby additional injection wells and producing wells at unorthodox locations within the project areas may be approved administratively.

CASE 4341: Application of Pan American Petroleum Corporation for two non-standard gas proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of two non-standard gas proration units for its State "C" Tract 13 Well No. 5, a dual completion, located 1980 feet from the North line and 660 feet from the West line of Section 36, Township 21 South, Range 37 East, Lea County, New Mexico, said units to be comprised as follows:

Blinbry Gas Pool - 240 acres - NW/4 and W/2
NE/4

Tubb Gas Pool - 200 acres - W/2 NW/4, NE/4
NW/4 and W/2 NE/4

CASE 4342: Application of Dearing, Wright, Gibbins, and Church, doing business as New Mexico Petroleum Company, for authority to operate an oil treating plant, Lea County, New Mexico. Applicants, in the above-styled cause, seek authority to install and operate a chemical and heating process oil treating plant in the vicinity of Tatum, New Mexico, for the reclamation of sediment oil to be obtained from tank bottoms, waste pits, and drip tanks.

- CASE 4343: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the perforated and open-hole interval from 11,194 feet to 11,278 feet in its New Mexico "BB" State (NCT-1) Well No. 2 located in Unit N of Section 11, Township 12 South, Range 32 East, East Caprock-Devonian Pool, Lea County, New Mexico.
- CASE 4344: Application of Texaco Inc. for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the open-hole interval from 11,230 feet to 11,503 feet in its B. E. Spencer "B" Federal Well No. 1 located in Unit D of Section 28, Township 15 South, Range 30 East, Little Lucky Lake-Devonian Pool, Chaves County, New Mexico.
- CASE 4345: Application of Yates Drilling Company for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers and possibly other formations in the open-hole interval from 68 feet to 100 feet in its Galvin Well No. 8 and from 68 feet to 90 feet in its Galvin Well No. 14, both located in Unit N of Section 12, Township 20 South, Range 26 East, West McMillan-Seven Rivers Pool, Eddy County, New Mexico.
- CASE 4346: Application of Yates Drilling Company for a pressure maintenance expansion and promulgation of rules therefor, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand the S. P. Yates West McMillan Anderson Pressure Maintenance Project in the West McMillan Seven Rivers-Queen Pool, Eddy County, New Mexico, authorized by Order No. R-3852, by the conversion to water injection of two additional wells located in Units O and P, Section 11, Township 20 South, Range 26 East. Applicant further seeks the designation of a project area, promulgation of rules governing said project, and a procedure whereby other methods of flooding in the subject project may be authorized administratively.
- CASE 4347: Application of Yates Drilling Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Yates North Vacuum (San Andres) Unit Area comprising 800 acres, more or less, of State lands in Sections 1, 2, 11, and 12, Township 17 South, Range 34 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico.

CASE 4348: Application of Yates Drilling Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its North Vacuum (San Andres) Unit Area by the injection of water into the San Andres formation through 9 wells located in Sections 1, 2, 11, and 12, Township 17 South, Range 34 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby said project may be expanded administratively without a showing of well response.

CASE 4349: Application of Tennessee Oil Company for a waterflood expansion and unorthodox injection well locations, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks to expand the waterflood project in its South Hospah Unit Area by the injection of water into the South Hospah Upper Sand Oil Pool, McKinley County, New Mexico, through two additional injection wells at unorthodox locations in Section 12, Township 17 North, Range 9 West, as follows:

Unit Well No. 41 - 5 feet from the North line and 1650 feet from the East line;

Unit Well No. 42 - 3000 from the North line and 5 feet from the East line.

CASE 4350: Application of Cities Service Oil Company for an exception to Order No. R-3221, as amended, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico. Said exception would be for applicant's Snyder Federal lease comprising the S/2 NE/4 and N/2 SE/4 of Section 26, Township 15 South, Range 29 East, Sulimar-Queen Pool, Chaves County, New Mexico. Applicant seeks authority to dispose of salt water produced by wells on said lease in an unlined surface pit located in Unit H of said Section 26.

CASE 4351: Application of Humble Oil & Refining Company for well re-classification and simultaneous dedication of acreage, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the reclassification of its New Mexico "G" State Well No. 5 from an oil well in the Eumont Pool to a gas well in said pool. Applicant further seeks the dedication of a standard 640-acre gas proration unit comprising all of Section 23, Township 21 South, Range 36 East, Lea County, New Mexico, to said Well No. 5 and to applicant's New Mexico "G" State Well No. 9,

located, respectively in Units E and G of said Section 23, and authority to produce the allowable assigned to said unit from either of said wells in any proportion.

CASE 4352: Application of Jack L. McElellan for the creation of a new gas pool or, in the alternative, the establishment of pool rules for two existing pools, Chaves and Lea Counties, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Queen gas pool comprising the following-described acreage:

CHAVES COUNTY, NEW MEXICO

Township 15 South, Range 29 East

Section 11: SE/4

Section 12: SW/4

Section 13: NW/4

Section 14: E/2

Section 23: NE/4 and SW/4

In the alternative applicant seeks the promulgation of special rules for the Sulimar-Queen Pool, Chaves County, and Double L-Queen Pool, Chaves and Lea Counties, New Mexico, as separate or as consolidated pools, including provisions for the classification of oil and gas wells, spacing and well location requirements for oil and gas wells, and an allocation formula for withdrawals by oil wells and gas wells.

CASE 4353: Application of Lone Star Producing Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Tres Papalotes-Pennsylvanian Pool, Lea County, New Mexico, including a provision for 160-acre spacing and proration units.

Case 4348

Heard # - 28-70

Rec - 5-5-70

Grant Yates Dr. Co. permission
to conduct a waterflood in their
North Vacuum S.A. units & authorize
to connect their 9 wells listed
on the front pages of their appl.
to water injection wells.

Two wells will be Gas/Water
Inlets i.e. water down plastic
coated tubing & Gas out Annulus
from the ~~Grass~~ Vacuum - Pump
Gas Port.

Tract 2 - #1 E - 12-17-34

L 4 - #2 G - 11-17-34

Grant Admin. procedure for
future inj. wells.

All tubing will be int. plastic
coated & Annulus on all i.e.
cept. Drilled wells will be
pulled up intact fluid & Gauge
at surface.

Grant Yates

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

RECEIVED
APR 29 1971
OIL CONSERVATION

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

CASE No. 4348
Order No. R-3962

APPLICATION OF YATES DRILLING COMPANY
FOR A WATERFLOOD PROJECT, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 29, 1970,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 12th day of May, 1970, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

- (1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.
- (2) That the applicant, Yates Drilling Company, seeks permis-
sion to institute a waterflood project in its North Vacuum (San
Andres) Unit Area, Vacuum Grayburg-San Andres Pool, by the injec-
tion of water into the San Andres formation through nine injection
wells in Sections 1, 2, 11, and 12, Township 17 South, Range 34
East, NMPM, Lea County, New Mexico.
- (3) That the applicant further seeks an administrative
procedure whereby said project could be expanded to include
additional lands and injection wells in the area of the said
project as may be necessary in order to complete an efficient
injection pattern; that said administrative procedure should
provide for administrative approval for conversion to water
injection in exception to the well response requirements of
Rule 701 E-5 of the Commission Rules and Regulations.

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

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

(6) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations; provided however, that the showing of well response as required by Rule 701 E-5 should not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

IT IS THEREFORE ORDERED:

(1) That the applicant, Yates Drilling Company, is hereby authorized to institute a waterflood project in its North Vacuum (San Andres) Unit Area, Vacuum Grayburg-San Andres Pool, by the injection of water into the San Andres formation through the following-described wells in Township 17 South, Range 34 East, NMPM, Lea County, New Mexico:

Unit Tract 1 - Well No. 1 - Unit M - Section 1
Unit Tract 3 - Well No. 2 - Unit O - Section 2
Unit Tract 3 - Well No. 4 - Unit G - Section 2
Unit Tract 5 - Well No. 2 - Unit M - Section 2
Unit Tract 6 - Well No. 2 - Unit E - Section 2
Unit Tract 4 - Well No. 2 - Unit G - Section 11
(A water injection and gas production dual completion)
Unit Tract 4 - Well No. 4 - Unit A - Section 11
Unit Tract 2 - Well No. 1 - Unit E - Section 12
(A water injection and gas production dual completion)
Unit Tract 2 - Well No. 4 - Unit C - Section 12

(2) That the subject waterflood project is hereby designated the Yates North Vacuum Unit Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve expansion of the Yates North Vacuum Unit Waterflood Project to include such additional lands and injection wells in the area of said project as may be necessary to complete an efficient water injection pattern; that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

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

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

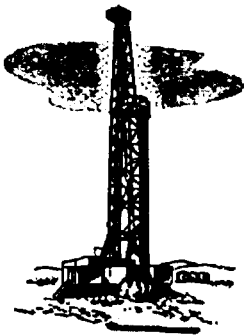
DAVID F. CARGO, Chairman

ALEX J. ARMIJO, Member

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

S E A L

esr/



YATES DRILLING COMPANY
YATES BUILDING - 207 SOUTH 4TH ST. - DIAL 746-3558

S. P. YATES,
PRESIDENT

HUGH W. PARRY,
SEC. TREAS.

ARTESIA, NEW MEXICO - 88210
March 5, 1970

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

Case 4242

RE: APPLICATION TO WATERFLOOD THE SAN ANDRES FORMATION,
YATES NORTH VACUUM SAN ANDRES UNIT, VACUUM FIELD,
LEA COUNTY, NEW MEXICO

Dear Mr. Porter:

Yates Drilling Company seeks authority to institute a water-flood project in its North Vacuum San Andres Unit Area by the injection of water into the San Andres Formation through 9 wells in Sections 1, 2, 11 and 12-Township 17 South-Range 34 East, Vacuum Field, Lea County, New Mexico. Applicant further asks for provision whereby the conversion of additional wells may be approved administratively. The proposed input wells are:

✓ Unit Tract 1 Well No. 1	✓ Unit M Sec. 1-17-34	<i>Gas/Water Dual</i>
Unit Tract 2 Well No. 1	✓ Unit E Sec. 12-17-34	
Unit Tract 2 Well No. 4	✓ Unit C Sec. 12-17-34	<i>Gas/Water Dual</i>
9- Unit Tract 3 Well No. 2	✓ Unit O Sec. 2-17-34	
Unit Tract 3 Well No. 4	✓ Unit G Sec. 2-17-34	
Unit Tract 4 Well No. 2	✓ Unit G Sec. 11-17-34	
Unit Tract 4 Well No. 4	✓ Unit A Sec. 11-17-34	
Unit Tract 5 Well No. 2	✓ Unit M Sec. 2-17-34	
Unit Tract 6 Well No. 2	✓ Unit E Sec. 2-17-34	

A plot of the Unit Area is attached hereto showing the location of the proposed injection wells and all other wells within a 2-mile radius and the formation from which said wells are producing; also, indicating the lessees. Copies of all available logs and diagrammatic sketches of the proposed input wells are also attached.

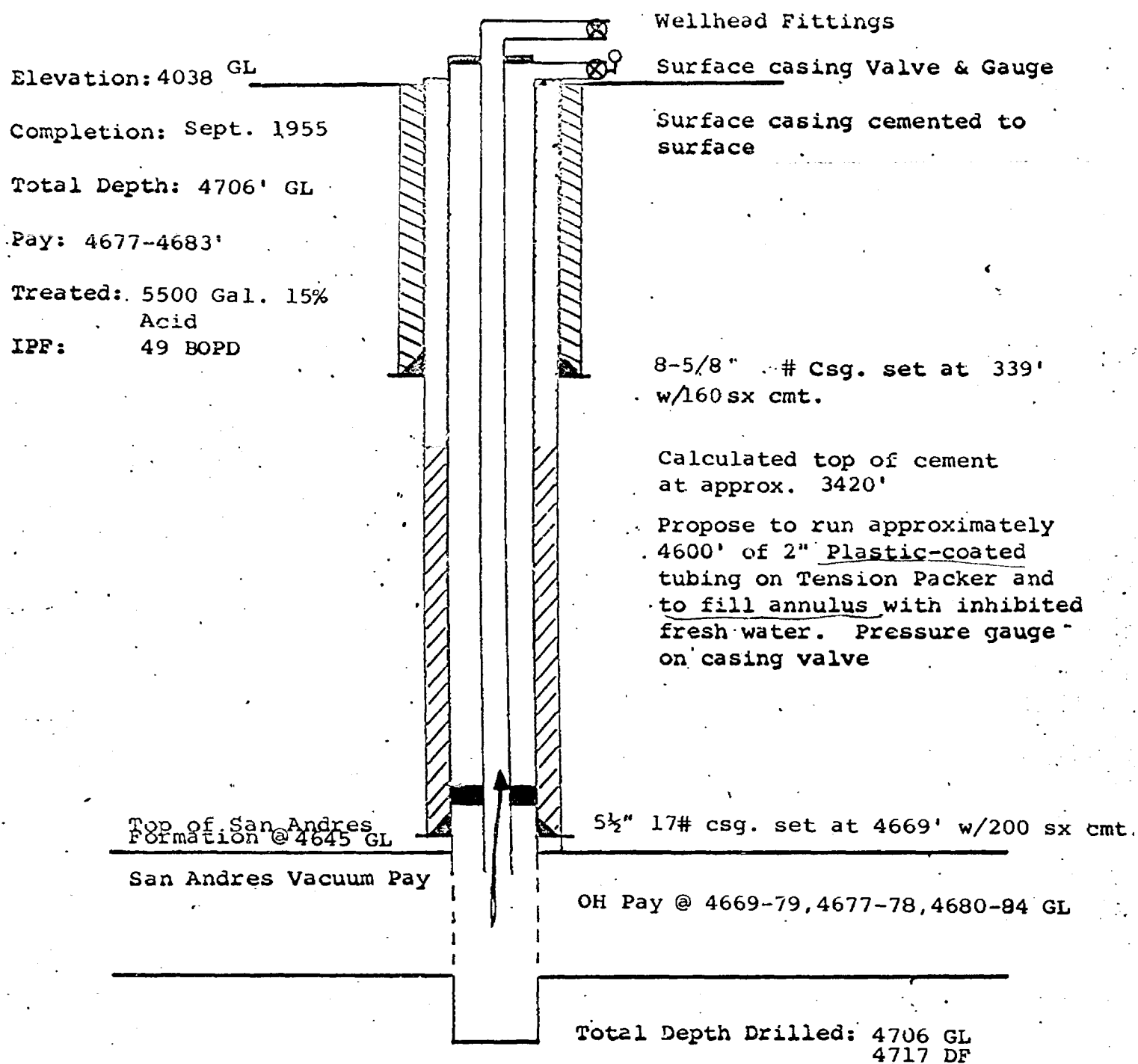
DOCKET MAILED

Very truly yours,

Eddie M. Mahfood
Eddie M. Mahfood,
Petroleum Engineer

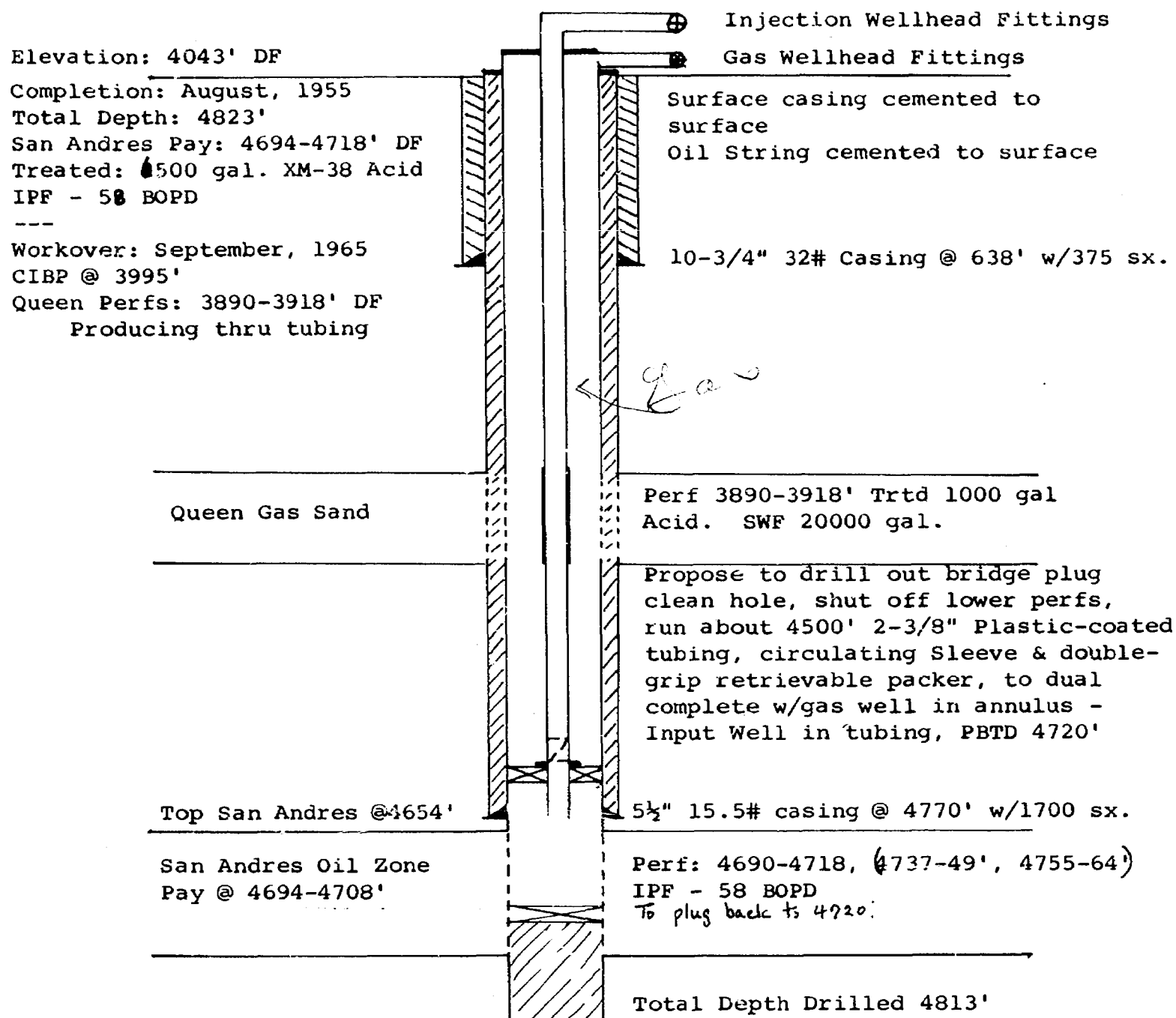
EMM/bcm

DIAGRAMMATIC SKETCH OF INJECTION WELL
 YATES DRILLING COMPANY
 NORTH VACUUM SAN ANDRES UNIT
 TRACT 1 WELL NO. 1
 660/S 660/W Unit M Sec. 1-17-34



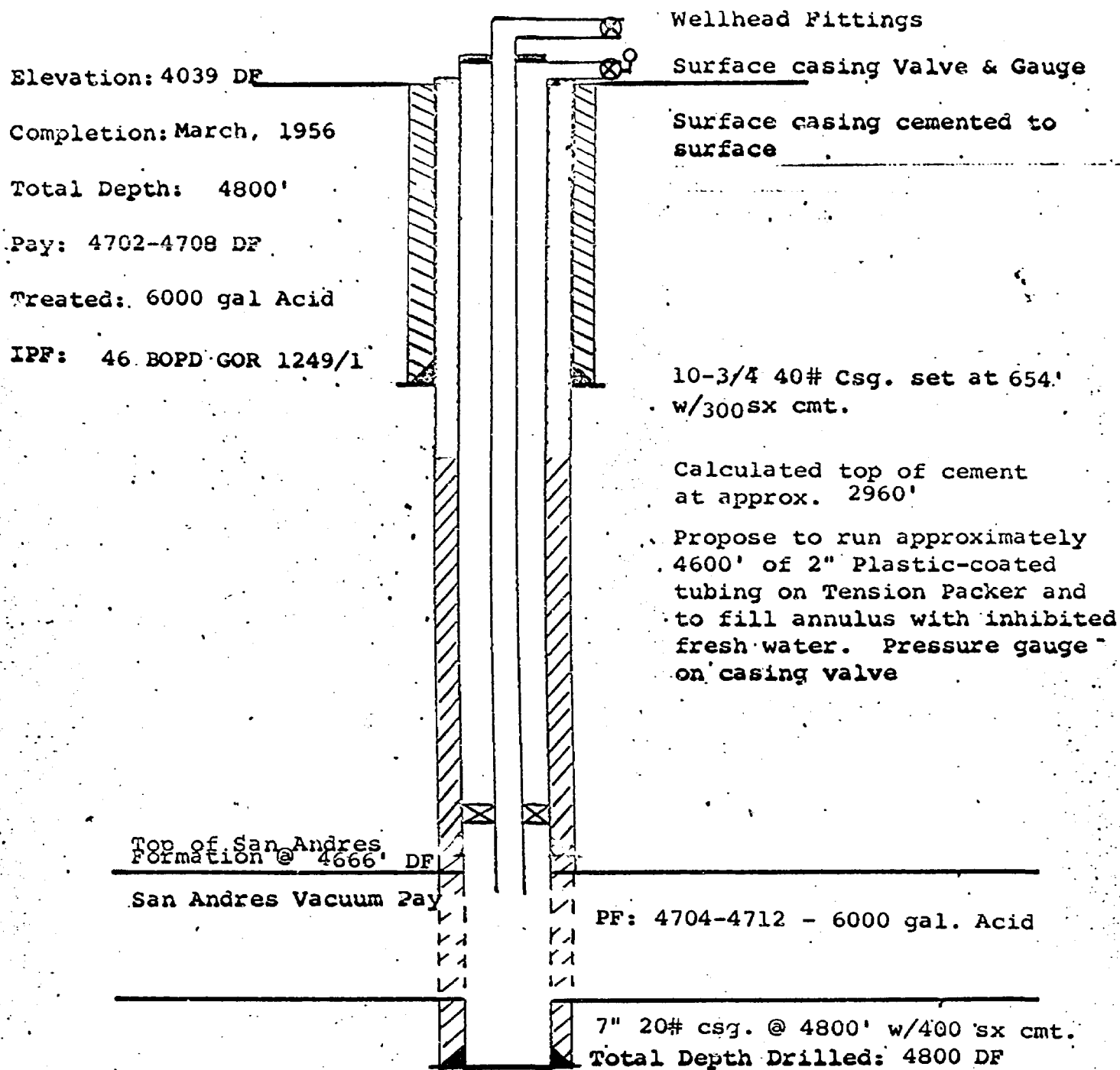
Case 7348

DIAGRAMMATIC SKETCH OF INJECTION WELL
YATES DRILLING COMPANY
NORTH VACUUM SAN ANDRES UNIT
TRACT 2 WELL NO. 1
660/W 1980/N UNIT E SEC. 12-17-34



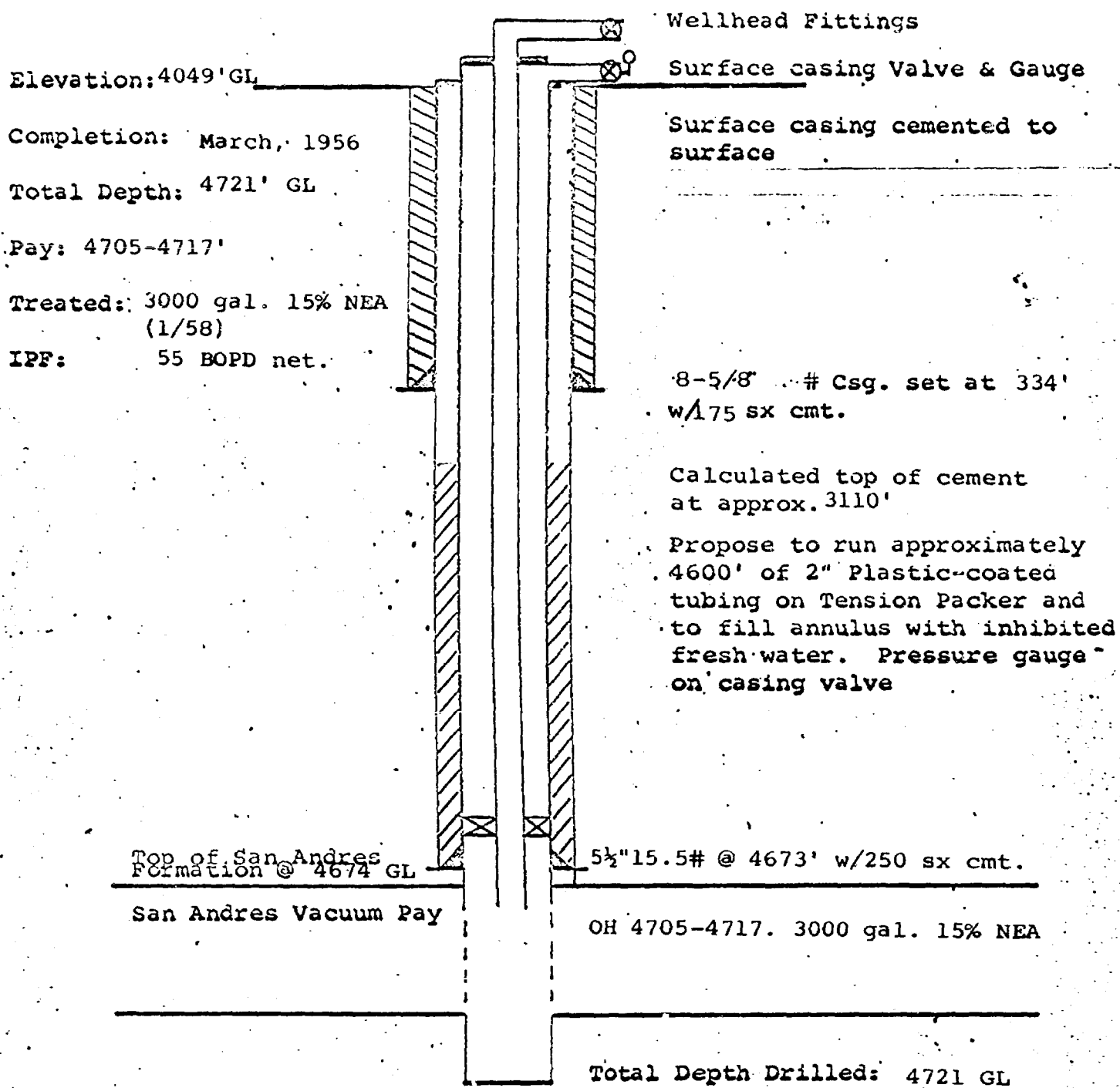
Case 4348 X

DIAGRAMMATIC SKETCH OF INJECTION WELL
 YATES DRILLING COMPANY
 NORTH VACUUM SAN ANDRES UNIT
 TRACT 2 WELL NO. 4
 660/N 1980/W Unit C Sec. 12-17-34



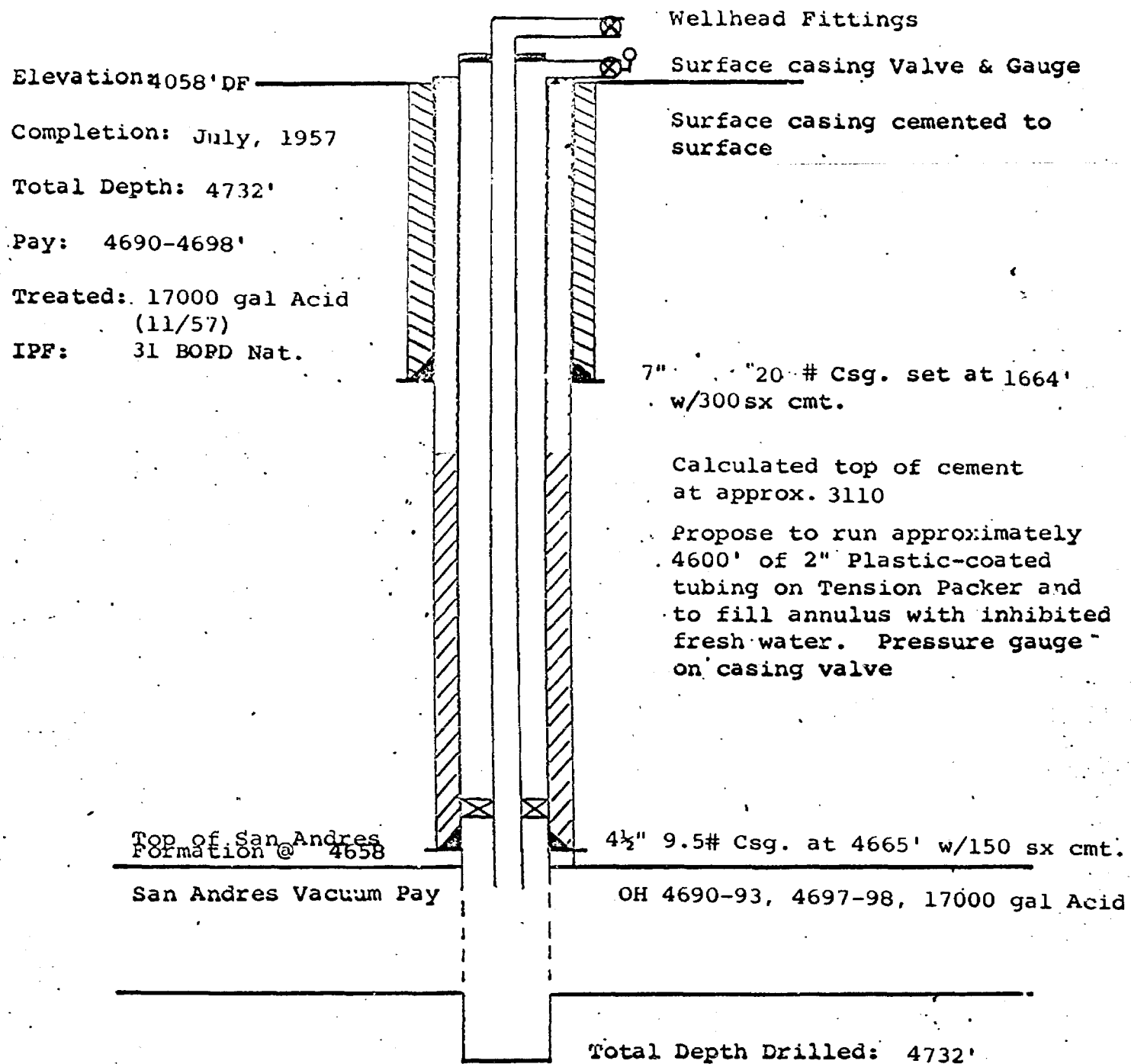
Chic 4348

DIAGRAMMATIC SKETCH OF INJECTION WELL
YATES DRILLING COMPANY
NORTH VACUUM SAN ANDRES UNIT
TRACT 3 WELL NO. 2
1980/E 330/S Unit 0 Sec. 2-17-34



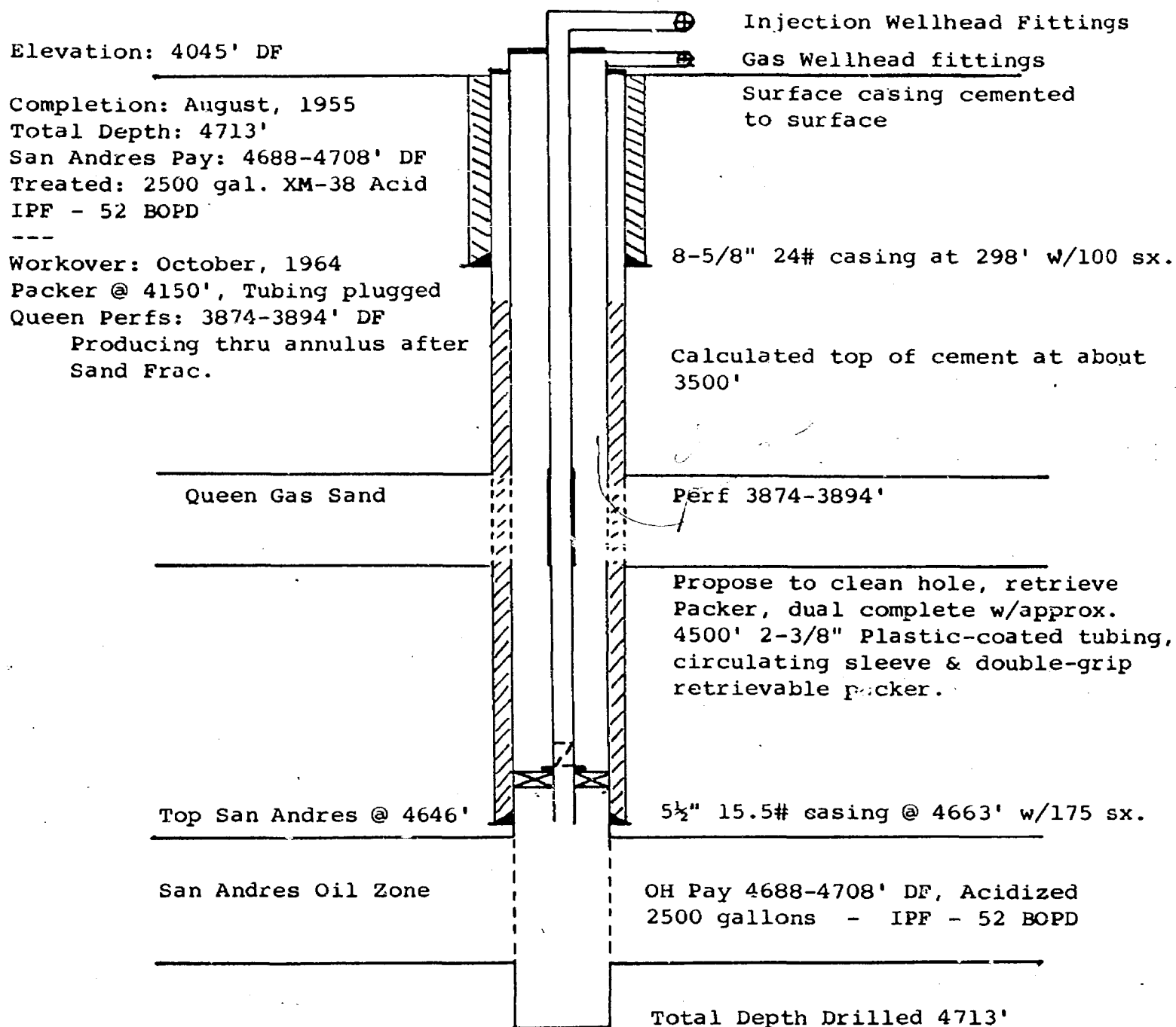
Case 4248

DIAGRAMMATIC SKETCH OF INJECTION WELL
 YATES DRILLING COMPANY
 NORTH VACUUM SAN ANDRES UNIT
 TRACT 3 WELL NO. 4
 2339/N 2312/E Unit G Sec. 2-17-34



Case 7348

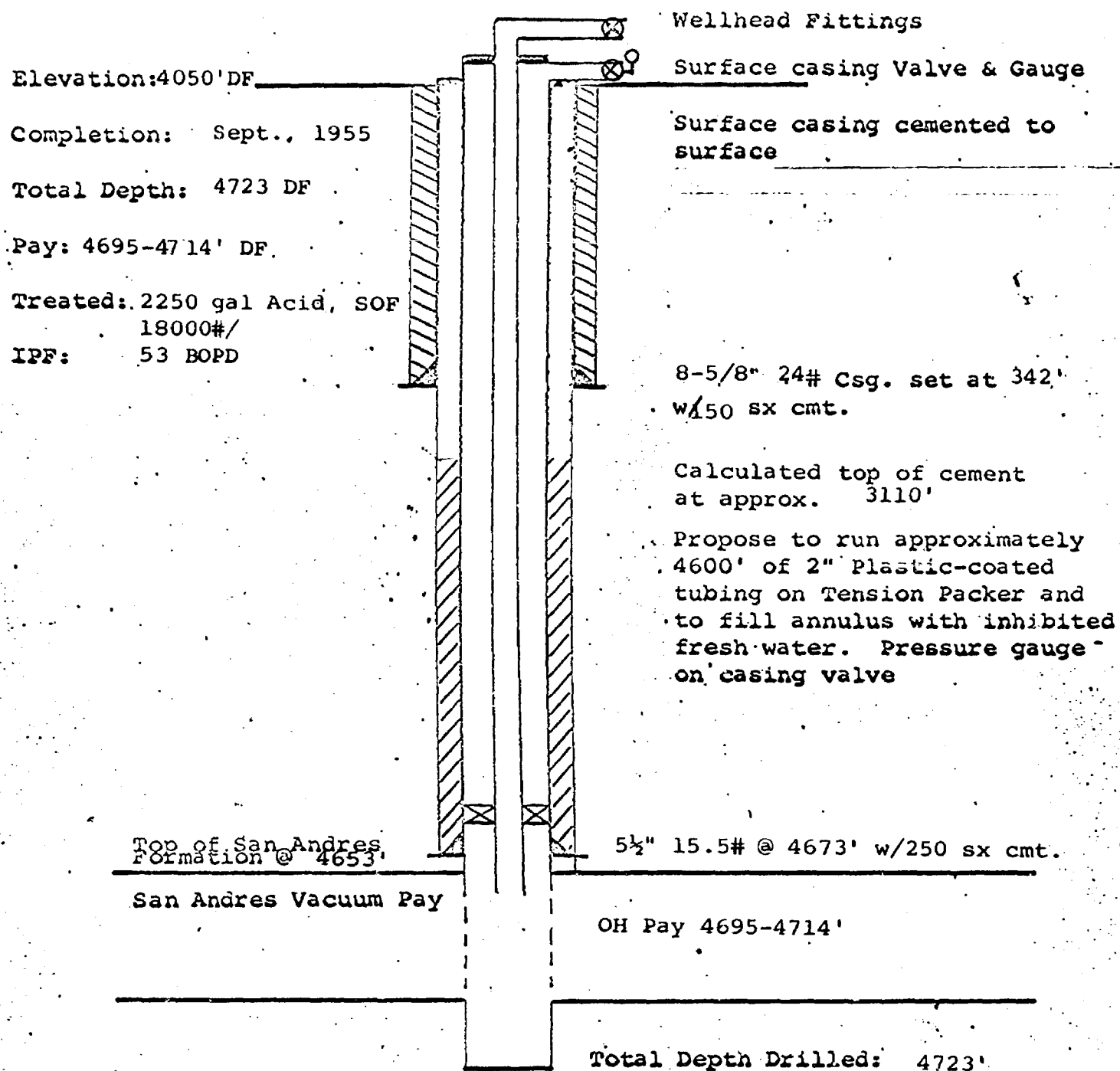
DIAGRAMMATIC SKETCH OF INJECTION WELL
YATES DRILLING COMPANY
NORTH VACUUM SAN ANDRES UNIT
TRACT 4 WELL NO. 2
1650/E 2310/N UNIT G SEC. 11-17-34



Case 1548

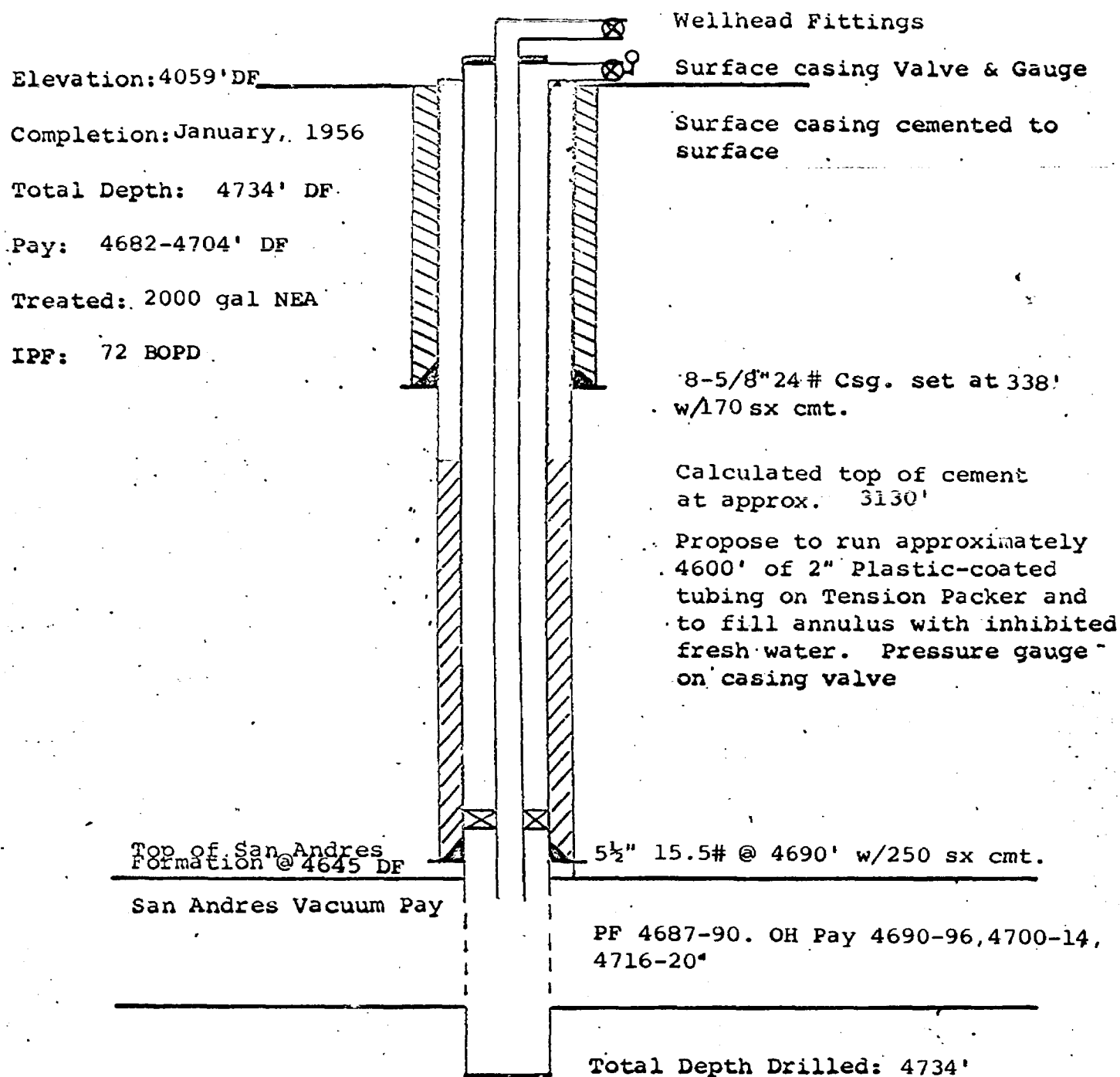
X

DIAGRAMMATIC SKETCH OF INJECTION WELL
 YATES DRILLING COMPANY
 NORTH VACUUM SAN ANDRES UNIT
 TRACT 4 WELL NO. 4
 330 1/2 E 990 N Unit A Sec. 11-17-34



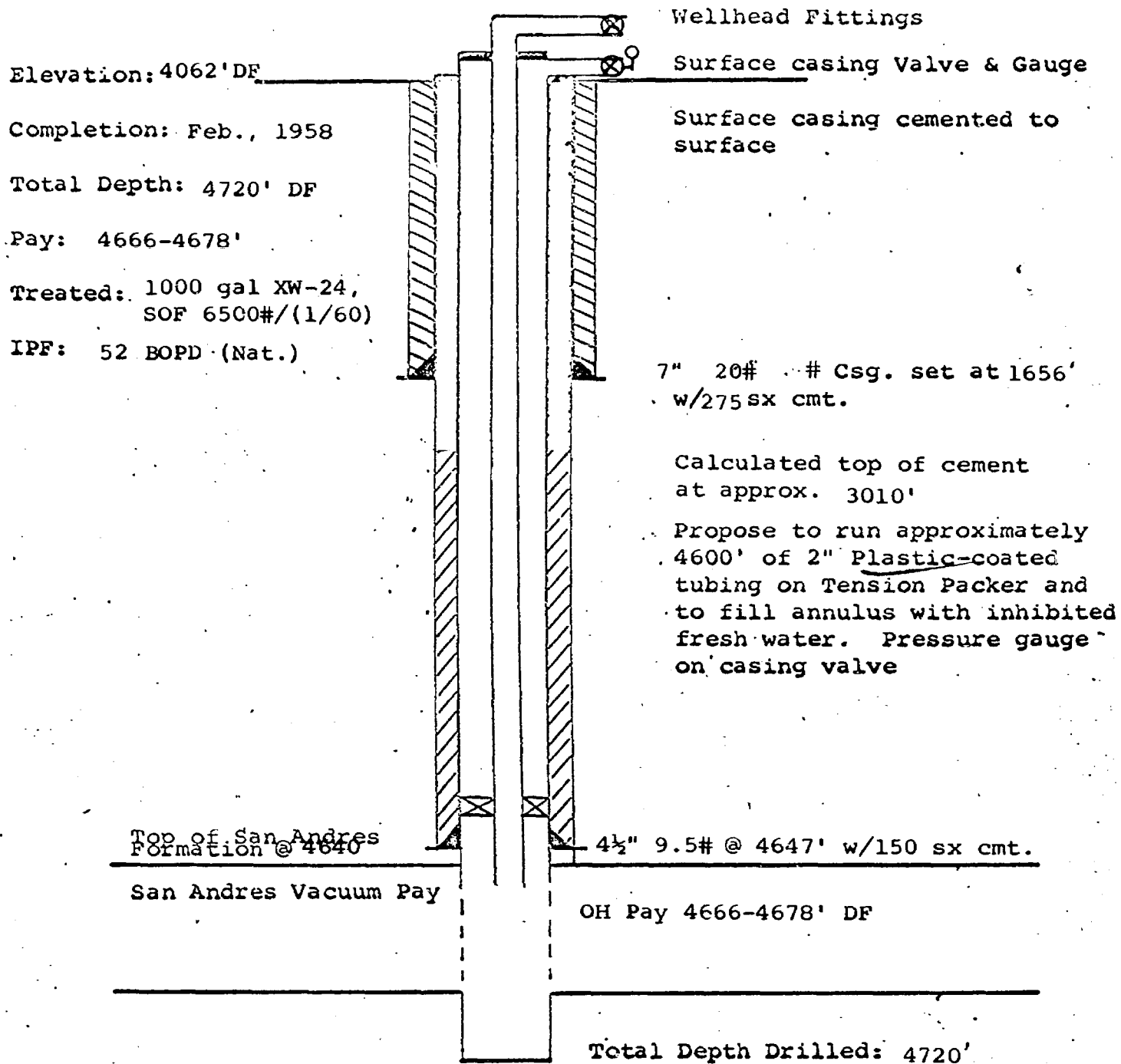
Case #278

DIAGRAMMATIC SKETCH OF INJECTION WELL
 YATES DRILLING COMPANY
 NORTH VACUUM SAN ANDRES UNIT
 TRACT 5 WELL NO. 2
 330/S 990/W Unit M Sec. 2-17-34



Case 8348

DIAGRAMMATIC SKETCH OF INJECTION WELL
YATES DRILLING COMPANY
NORTH VACUUM SAN ANDRES UNIT
TRACT 6 WELL NO. 2
660/W 2345/N Unit E Sec. 2-17-34

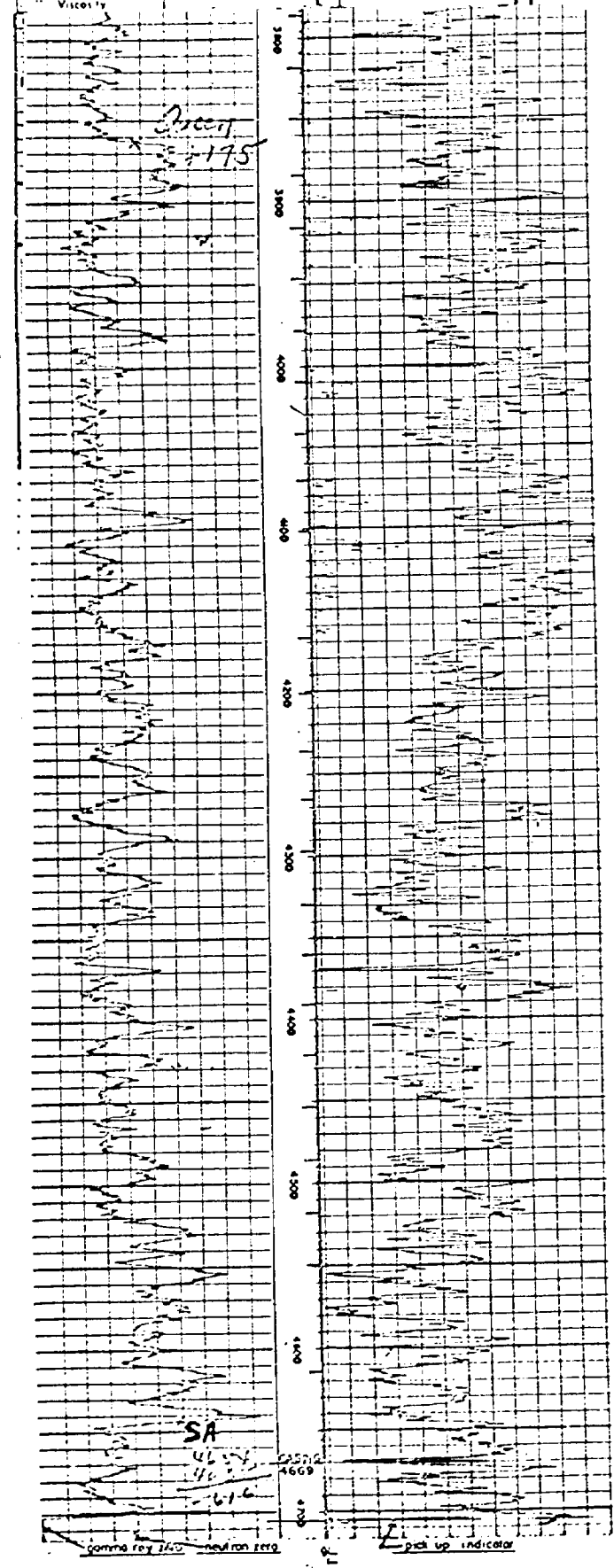


Case 7348

SCHLUMBERGER WELL SURVEYING CORPORATION

COUNTY LEA FIELD YAGUVA LOCATION SEC. 1-175-34E COMPANY SOUTHERN CALIF. PETR. CO. WELL STATE #1	Location of Well 330' 1" SW 1/4 Sec. 1-175-34E
	Tract 1 #1 GRN
	Elevation of Well 4747 K.B. 311.4038
	FILING No.
	COUNTY LEA STATE NEW MEXICO

LOG NO.	DATE
9-23-55	
Depth Reference	01
Top of Hole	4705
Top of Casing	4705
Footage Measured	4705
Max. Depth Reached	4706
Bottom of Hole	4706
Maximum Temp.	
Mud Weight	0.11
Density	
Viscosity	



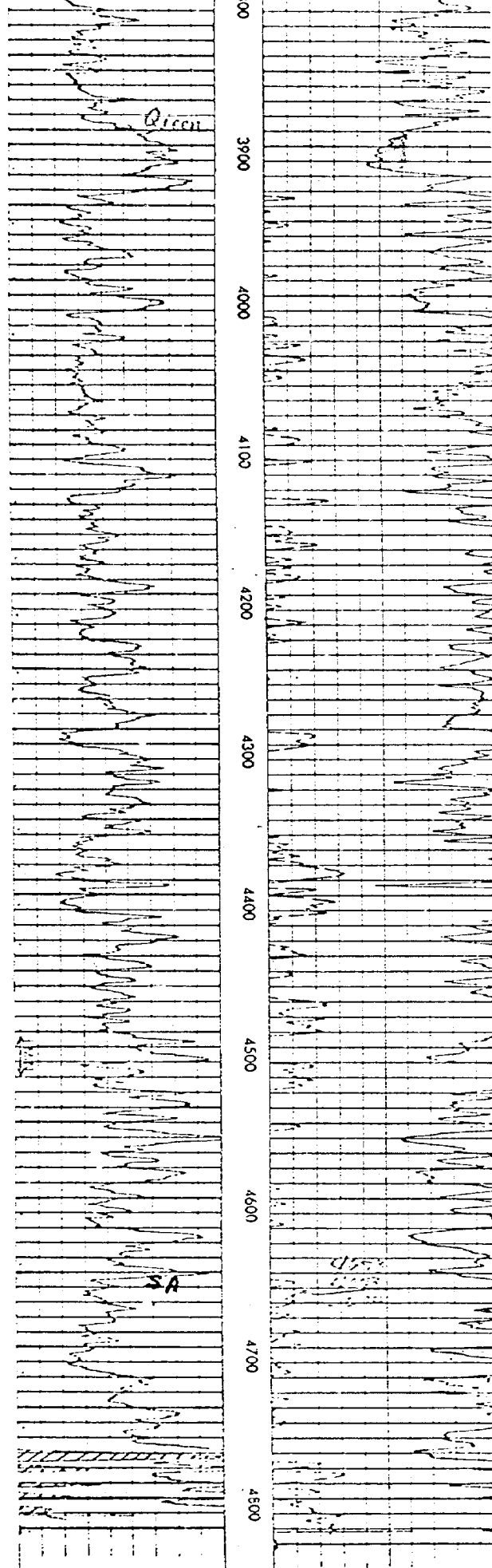
Case 4248

NATURAL GAMMA RADIATION INDUCED GAMMA RADIATION

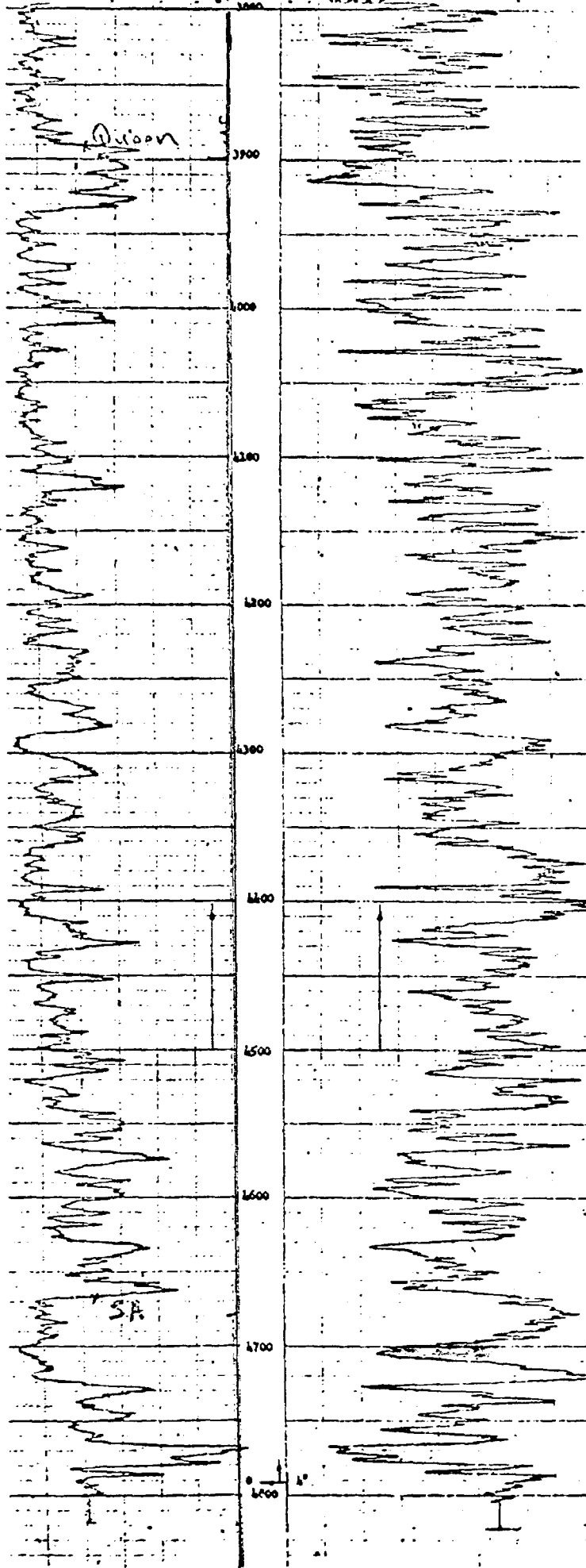
COMPANY THE SOUTHERN CALIF. PETR. CO. WELL STATE #1 FIELD YAGUVA COUNTY LEA SEC. 1-175-34E SURVEY	Location 330' 1" SW 1/4 Sec. 1-175-34E Tract 2 #1 GRN Elevation of Well 4747 K.B. 311.4038
--	---

Log Measured from	Top of Hole	Elevation	4747
Drilling Measured from	Top of Hole	Elevation	4747
Permanent Datum	Sea Level	Elevation	0.00

Type Log	NATURAL	INDUCED
Run No.	01	01
Date	9-23-55	9-23-55
Footage Logged	4705	4705
Total Depth, Driller	4705	4705
Total Depth, Logger	4705	4705
Type of Fluid in Hole	Oil	Oil
Fluid Level	4705	4705
Max. Temp.	99	99



McCullough TOOL COMPANY RADIATION LOG			
Location of Well 1901 FR. WL- 1901 FR. WL- 12-175-018 RJ V. R.D. 4001		COMPANY THE OIL COMPANY	
Fract 2nd		WELL STATE BRIDGE R.F. 4	
		FIELD VACUUM	
		COUNTY 111 STATE ILLINOIS	
		LOCATION 4339 D.F.	
Log Meas. from TOP KELLY RUNNING Elev.		COMPANY THE OIL COMPANY	
Dry Meas. from 100' (1" ABOVE AIR COLUMN) Elev.		WELL 12-175-018	
Form Datum 12.5' ABOVE O.S. Elev.		FIELD VACUUM	
		COUNTY 111	
		STATE ILLINOIS	
		LOCATION 4339 D.F.	
Ser. T.R. No. 1150 T.R. No. 206 T.R. Oper. 20.7 Log Ticket No. 5712			
Date 2-2-56		Maximum Recorded Temp.	
Total Depth (Drill) 1500'		Effective Depth (McCullough) 1507.5'	
Type of Fluid in Hole 10-10.50-915.15		Fluid Level 111'	
O.D. of Instrument 1.5"		Length of Pipe—Overall 11'	



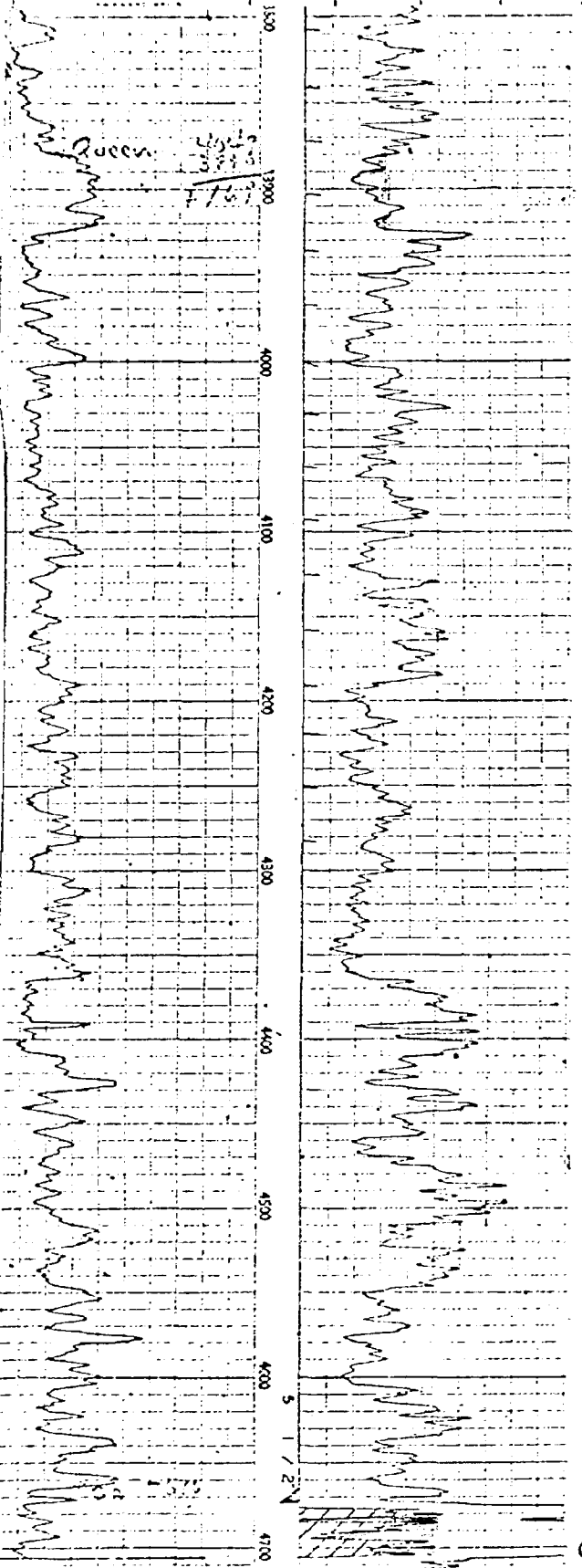
Case 4348

LANE WELLS

Radioactivity Log

COMPANY: S.P. YATES WELL: GULF-ANGLE STATE NO. 4 FIELD: VACUUM COUNTY: L.A. STATE: N.M. LOCATION: 120' FSL & 1500' FEL OF SEC. 2 T-17S, R-34-E. 12,570.5	LOG MEAS FROM: TOP TUBING HANGER	ELEV. 342
	ORIG. MEAS FROM: TOP TUBING HANGER	ELEV.
	PERM. DATUM: TOP TUBING HANGER	ELEV.
	TYPE OF LOG: GAMMA RAY NEUTRON	
	FILM NO. 3-12-56 3-12-56	

DATE: 3-12-56	TIME: 10:00	LOGGERS: J. J. JONES
TOTAL DEPTH (DRILLER): 1500	EFFECTIVE DEPTH (DRILLER): 1500	TOP OF LOGGED INTERVAL: 1500
BOTTOM OF LOGGED INTERVAL: 1500	TYPE OF FLUID IN HOLE: OIL	LOG LEVEL: 100



Queen
4348

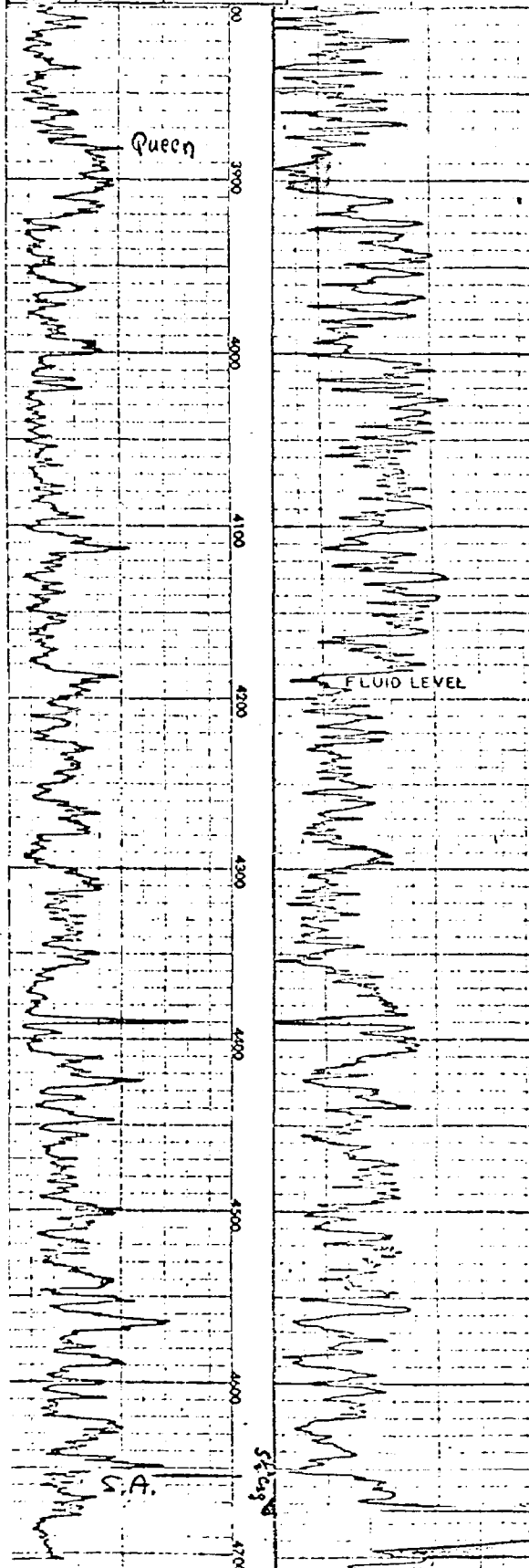
R.O. 4703
T.D. 4716

LANE WELLS

Radioactivity Log

COMPANY: S.P. YATES WELL: GULF-ANGLE STATE NO. 4 FIELD: VACUUM COUNTY: L.A. STATE: N.M. LOCATION: NE 1/4 OF NE 1/4 SEC. 11 TWP. 17-S. RGE. 34-E. 12,570.5	LOG MEAS FROM: TOP TUBING HANGER	ELEV. 342
	ORIG. MEAS FROM: TOP TUBING HANGER	ELEV.
	PERM. DATUM: TOP TUBING HANGER	ELEV.
	TYPE OF LOG: GAMMA RAY NEUTRON	
	FILM NO. 3-12-56 3-12-56	

DATE: 4-12-60	TIME: 10:00	LOGGERS: J. J. JONES
TOTAL DEPTH (DRILLER): 1500	EFFECTIVE DEPTH (DRILLER): 1500	TOP OF LOGGED INTERVAL: 1500
BOTTOM OF LOGGED INTERVAL: 1500	TYPE OF FLUID IN HOLE: OIL	LOG LEVEL: 100



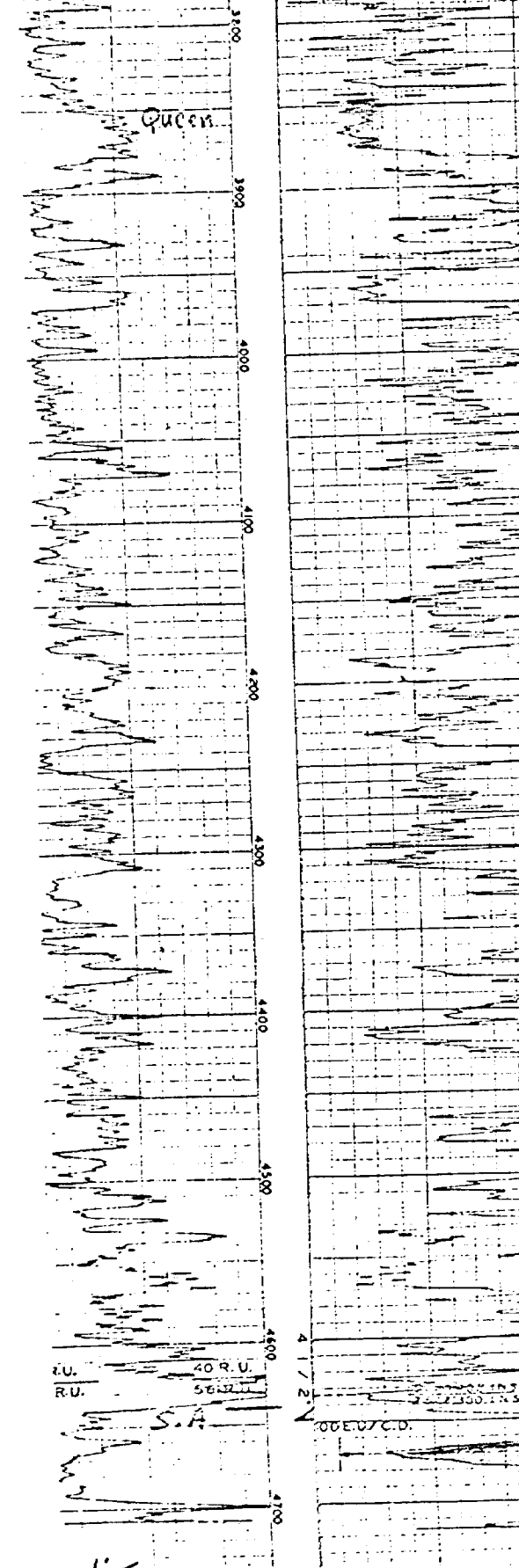
R.O. 4703
T.D. 4716

LANE WELLS

Radiactivity Log

COMPANY: S. P. TATE
 WELL: OHIO STATE #2 NO. 2
 FIELD: VACUUM
 LOCATION: 2312.14' FEL OF SW 1/4 OF NE 1/4 OF SEC. 2, T-17-S, R-3-E
 COUNTY: LSA STATE: N.MEX.
 LOG ZERO: 1700
 DFLG ZERO: 1700
 FIRM: DATUM

TYPE OF LOG: 1700
 DATE: 7-11-58
 TOTAL DEPTH (DRILLER): 1700
 EFFECTIVE DEPTH (DRILLER): 1700
 CP OF LOGGED INTERVAL: SURFACE
 BOTTOM OF LOGGED INTERVAL: 1700
 TYPE OF FLUID IN HOLE: OIL

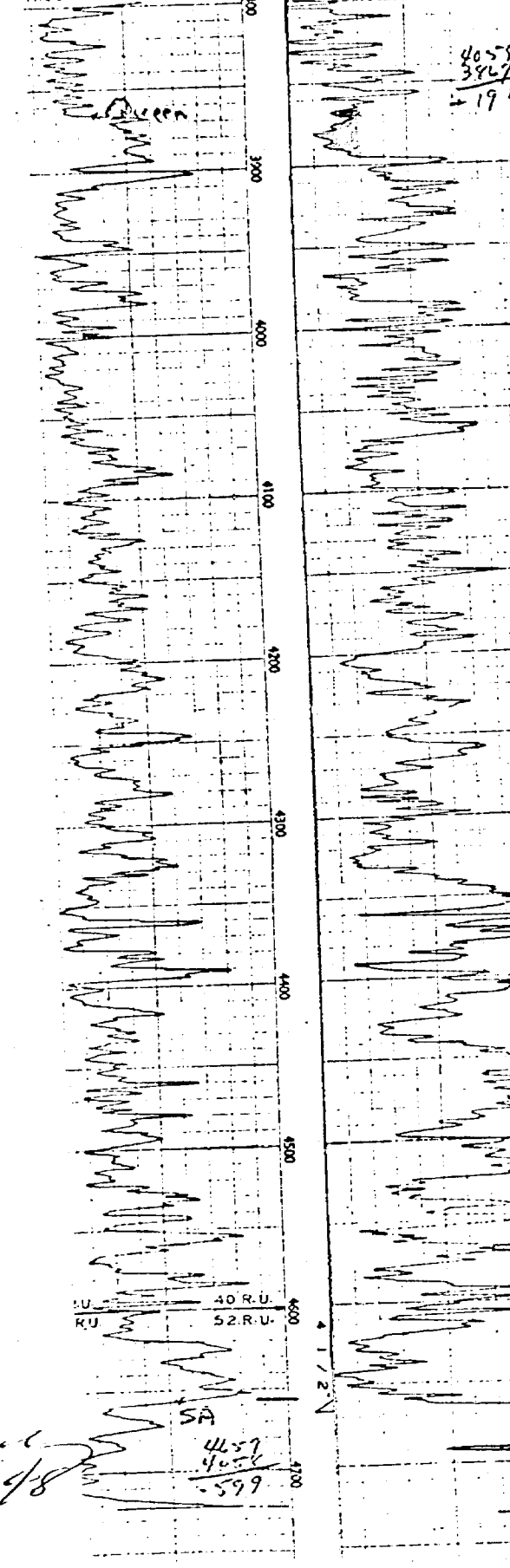


LANE WELLS

Radiactivity Log

COMPANY: S. P. TATE
 WELL: CITIES SERVICE ANGUS STATE NO. 1
 FIELD: VACUUM
 LOCATION: 2312.14' FEL OF SW 1/4 OF NE 1/4 OF SEC. 2, T-17-S, R-3-E
 COUNTY: LSA STATE: N.MEX.
 LOG ZERO: 1700
 DFLG ZERO: 1700
 FIRM: DATUM

TYPE OF LOG: 1700
 DATE: 7-11-58
 TOTAL DEPTH (DRILLER): 1700
 EFFECTIVE DEPTH (DRILLER): 1700
 CP OF LOGGED INTERVAL: SURFACE
 BOTTOM OF LOGGED INTERVAL: 1700
 TYPE OF FLUID IN HOLE: OIL



Well Location

LOG ZERO
 DFLG ZERO
 FIRM: DATUM

4058
 3867
 -19'

DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 4348

Order No. R-3962

APPLICATION OF YATES DRILLING COMPANY
FOR A WATERFLOOD PROJECT, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 29, 1970,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this day of May, 1970, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Yates Drilling Company,
seeks permission to institute a waterflood project in ~~the~~ its
North Vacuum Vacuum Grayburg-
(San Andres) Unit Area, San Andres Pool, by
the injection of water into the San Andres formation
through nine injection wells in Sections 1, 2, 11, and 12,
Township 17 ~~North~~, South, Range 34 ~~West~~, East, NMPM,
Lea County, New Mexico.

(3) That the applicant further seeks an administrative
procedure whereby said project could be expanded to include
additional lands and injection wells in the area of the said
project as may be necessary in order to complete an efficient
injection pattern; that said administrative procedure should
provide for administrative approval for conversion to water
injection in exception to the well response requirements of
Rule 701 E-5 of the Commission Rules and Regulations.

(SEE UNDER)

(6) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations; provided however, that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

IT IS THEREFORE ORDERED:

(1) That the applicant, Yates Drilling Company,
is hereby authorized to institute a waterflood project in ~~the~~ its
Vacuum Grayburg-
North Vacuum (San Andres) Unit Area, San Andres Pool,
by the injection of water into the San Andres formation
through the following-described wells in Township 17
~~North~~ South, Range 34 ~~West~~ East, NMPM, Lea
County, New Mexico:

① Unit Tract 1 - Well No. 1 - Unit M - Section 1 ✓
4 Unit Tract 3 - Well No. 2 - Unit O - Section 2 ✓
5 Unit Tract 3 - Well No. 4 - Unit G - Section 2 ✓
8 Unit Tract 5 - Well No. 2 - Unit M - Section 2 ✓
9 Unit Tract 5 - Well No. 2 - Unit E - Section 2 ✓
5 Unit Tract 4 - Well No. 2 - Unit G - Section 11 ✓
(a water injection and gas production dual completion)
7 Unit Tract 4 - Well No. 4 - Unit A - Section 11 ✓
② Unit Tract 2 - Well No. 1 - Unit E - Section 12 ✓
(a water injection and gas production dual completion)
3 Unit Tract 2 - Well No. 4 - Unit C - Section 12 ✓

(2) That the subject waterflood project is hereby designated
the Yates North Vacuum Unit Waterflood Project and shall
be governed by the provisions of Rules 701, 702, and 703 of the
Commission Rules and Regulations:

PROVIDED HOWEVER, that the Secretary-Director of the Commis-
sion may approve expansion of the Yates North Vacuum Unit
Waterflood Project to include such additional lands and injection
wells in the area of said project as may be necessary to complete
an efficient water injection pattern; that the showing of well
response as required by Rule 701 E-5 shall not be necessary before
obtaining administrative approval for the conversion of additional
wells to water injection. (SEE UNDER)

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

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