

CASE No.
3507

Application,
TRANSCRIPTS,
SMALL Exhibits
ETC.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 4, 1967

IN THE MATTER OF:

Application of Standard Oil Company of
Texas for a unit agreement, Lea
County, New Mexico.

Case No. 3506

IN THE MATTER OF:

Application of Standard Oil Company
of Texas for a waterflood expansion,
Lea County, New Mexico.

Case No. 3507

BEFORE:

Daniel S. Nutter, Examiner

Transcript of Hearing

MR. NUTTER: We will call Case 3506.

MR. HATCH: Case 3506: Application of Standard Oil
Company of Texas for a unit agreement, Lea County, New Mexico.

MR. KELLAHIN: Jason Kellahin, Kellahin & Fox, Santa Fe,
appearing for the Applicant. Case 3506 is an application for
approval of the Maljamar-Grayburg Unit and Case 3507

pertains to an expansion of the existing waterflood in its present area. For that reason, I would like to move at this time that the two cases be consolidated for purposes of testimony and that separate orders be entered.

MR. NUTTER: We will call next, Case 3507.

MR. HATCH: Case 3507: Application of Standard Oil Company of Texas for a waterflood expansion, Lea County, New Mexico.

MR. NUTTER: Case 3506 and 3507 will be consolidated for purposes of testimony.

MR. KELLAHIN: In this case we will have two witnesses. We would like to have them stand and be sworn.

(Witnesses sworn)

MR. KELLAHIN: I would like to call as our first witness P.I. Youngkin.

MR. NUTTER: What are the initials?

MR. KELLAHIN: P.I.

P. I. YOUNGKIN, called as a witness, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A P.I. Youngkin.

Q By whom are you employed and in what position?

A I am employed by Standard Oil Company of Texas as Senior Unitization Engineer.

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS
1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-4691 • ALBUQUERQUE, NEW MEXICO 87101
1205 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO 87108

PAGE 4

Q Where are you located?

A Houston, Texas.

Q Have you ever testified before the Oil Conservation Commission before?

A No, I haven't.

Q For the benefit of the Examiner, would you outline briefly your education and experience as an engineer?

A I graduated from the University of Texas with a B.S. Degree in Petroleum Engineering in 1949. Immediately upon graduation I was employed by Standard of Texas. I have been employed in various petroleum engineering capacities since that time. The last seven and a half years or so I have been doing unitization work.

Q You are now handling unitization work in the office in Houston?

A Yes, sir.

Q In connection with your work in Houston, did you have anything to do with the development of the Maljamar-Grayburg Unit?

A Yes, sir, I was responsible for the coordination of the various activities that go into unitizing a field.

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

MR. NUTTER: Yes, they are.

(Whereupon, Standard's Exhibit 1 marked for identification.)

Q Referring to what has been marked as Standard's Exhibit No. 1, would you identify that exhibit, please?

A Exhibit No. 1 is the Unit Agreement and the purpose of this Unit Agreement is to enable institution and conservation of secondary recovery operations, conserve natural resources, prevent waste and secure the other benefits obtainable through development and operation in the proposed unitized area. This unit area is shown on Exhibit A and further described in Exhibit B of this Unit Agreement and contains some 3,441 acres. This acreage is comprised of Federal, State, and Fee lands in Township 17, Range 32 East, in Lea County, New Mexico.

Q Would you give us the amount of Federal, State, and Fee land involved in the unit?

A Yes, sir, there are a total of thirty-six tracts in the unit area comprising 3,441 acres, eighteen of which contain -- 2,481 acres is Federal acreage. There are two State tracts comprising eighty acres and sixteen tracts comprising a total of 880 acres.

Q Is the Unit Agreement in a form that has heretofore been approved by this Commission?

A Yes, sir.

Q It's what you might call a standard or normal form of Unit Agreement?

A Yes, sir.

Q Does it have provision for subsequent joinder?

A Yes, it does.

Q Has everyone in the area been given an opportunity to join in the unit?

A Yes, sir.

Q Has the unit been submitted to the New Mexico State Land Office?

A The preliminary agreement I understand has been and we have received preliminary approval and I believe, coincident with this, the State Land Office has been furnished a copy. It's our intention to secure final approval upon approval by the Oil Conservation Commission.

Q Has it been submitted to the U.S.G.S.?

A The preliminary agreements have been submitted to the U.S.G.S.

Q Have the final copies been designated by the U.S.G.S.?

A Yes, sir.

Q What percentage has been assigned of the owners?

A We have 92.7 per cent of the working interest ownership committed to this unit and 94.6 per cent of the royalty interests committed to this unit.

Q In referring to the royalty interests, that is on the assumption that the U.S.C.S. and the State Land Office approve the agreement?

A Yes, sir.

Q In that event you would have what per cent of commitment?

A 94.6.

Q Do you anticipate that you will get 100% of the working interests signing?

A No, sir, we have one tract designated as Tract Three, I believe, which is operated by Cima Capitan, and they have declined to participate in the unit. However, they did indicate that they would cooperate with us.

Q Exhibit No. 1 is the Unit Agreement to which you have referred?

A Yes, sir.

MR. KELLAHER: I would like to offer Exhibit 1.

MR. NUTTER: Applicant's Exhibit No. 1 will be admitted in evidence.

(Whereupon, Applicant's Exhibit No. 1 admitted in evidence)

MR. KELLAHER: That's all I have on direct examination.

BY MR. NUTTER:

Q Cima Capitan has declined to join the unit. Do you know if they have plans to waterflood their acreage?

dearnley-meier reporting service, inc.

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

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87101
1205 FIRST NATIONAL BANK EAST • PHONE 258-1294 • ALBUQUERQUE, NEW MEXICO 87108

PAGE 8

A No, sir, I don't know what their plans are at this time. They did indicate that they would cooperate to the fullest possible extent.

Q They are a waterflood company and I just wondered if they had indicated to you that they would waterflood and if you had entered into line agreements with them?

A Not as of this time.

Q That's the only tract that you know of that won't be committed?

A That is true.

Q It's a 160-acre tract?

A That is true.

MR. NUTTER: Are there any further questions of Mr. Youngkin? You may be excused.

MR. KELLAHIN: We will call as our next witness Mr. Jerry Webb.

(Witness sworn)

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

BY MR. KELLAHIN:

DIRECT EXAMINATION

Q Would you state your name, please?

A Jerry Webb.

Q By whom are you employed and in what position?

A Standard Oil Company of Texas as Petroleum Engineer.

Q Where are you located?

A Snyder.

Q Does the area involved in the Maljamar-Grayburg Unit come under your supervision?

A Yes, sir, it does. I am the production engineer in charge.

Q Have you ever testified before the Oil Conservation Commission of New Mexico before?

A No, sir.

Q For the benefit of the Examiner, would you briefly outline your education and experience?

A I graduated from the University of Houston in 1959 with a B.S. in Petroleum Engineering, employed by a subsidiary of Standard of California in Colorado at that time; transferred to Oklahoma with Standard of Texas and finally into Snyder for the last two years.

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

MR. NUTTER: Yes, they are.

(Whereupon, Applicant's Exhibit No. 2 marked for identification)

Q Referring to what has been marked Exhibit No. 2, would you identify that exhibit and discuss the information shown on it?

A Yes, sir, this is the plat of the proposed Maljamar-Grayburg Unit. The gray line outlines the proposed unit. As

Mr. Youngkin testified, there is 3,441 acres consisting of forty acres Phillips tract, Cima Capitan's tract and 3,240 acres purchased by Standard of Texas from Leonard Nichols in 1965.

Q Shown on the plat are certain well symbols. What are the significance of those symbols?

A The circles colored blue are present injection wells and the triangles are proposed injection wells we are asking approval.

Q This area has already been approved or at least, a portion of it for waterflood, water injection, is that correct?

A Yes, sir.

Q Are you familiar with the history of that?

A Yes, sir. In 1962 Mr. Leonard Nichols established two pilot spots in Section Three and then he later expanded that into Section Four and Section Ten. He expanded it three times. In early 1966 Standard requested approval and received approval to expand five more wells and this was in April of '66.

Q It's now proposed to expand the waterflood project further, is that correct?

A Yes, sir. We wish to expand it by converting thirteen of the indicated wells to water injection.

dearnley-meier

SPECIAL ZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87101
1205 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO 87108

PAGE 11

Q This will be in addition to those that are already being used for injection purposes?

A Yes, sir, this will give us a total of thirty-four injection wells.

Q In connection with the application it was requested that the Commission establish an administrative procedure for the additional injection wells, whether such wells have received the response by offset wells having received the response or not. Do you consider this a necessary provision in any order entered by the Commission at this time?

A Yes, sir. We could save a lot of time and money with an administrative approval for any expansion that we have.

Q Would you anticipate that there would be expansion of the type involved there which would not come under the provisions of Rule 701 which requires that the well receive a response or be offset by a well having received a response?

A Yes, sir, it is possible.

Q You would want that provision in the order?

A Yes, sir.

(Whereupon, Applicant's Exhibit No. 3 marked for identification)

Q Now, referring to what has been marked as Exhibit No. 3, would you identify that exhibit?

A Exhibit No. 3 is a data sheet describing the formation

in Maljamar-Grayburg area and the Grayburg Formation, average depth, 4.050 feet on an anticlinal stratigraphic structure, well count in the area, we have fifty-nine producing wells, twenty-one injection wells, and nine under-developed forty-acre units. We currently have three sources of injection water. Source number one, fresh water from a Standard of Texas-operated water well in Section One. Our second source, we purchased water from the Double Eagle Corporation of New Mexico in Section Four. Source three, we are currently injecting 800 barrels of produced water a day in five injection wells. The water analysis of these three sources are included in the data sheet. On the third page, we have twelve wells that will be added to the project area by this proposed expansion along with their current producing rates.

Q A while ago you said, I believe, thirteen wells will be added. Is it twelve?

A This would be twelve wells that would be brought into the waterflood project area.

Q The other wells are within the area now, is that correct?

A Yes, sir, our current injection rate is 4,800 barrels a day and we anticipate a maximum of plus or minus 8,000 barrels a day. Project injection is 300 to 2,700 pounds and

this should remain the same after expansion. Through November 1, 1966, we have injected 4,500,000 barrels into the Grayburg area.

(Whereupon, Applicant's Exhibit 4 marked for identification)

Q Now, referring to what has been marked as Exhibit No. 4, would you identify it by exhibit?

A Yes, sir, Exhibit No. 4 are logs of various times on the thirteen proposed injection wells. We propose to flood the Grayburg formation. A ~~type~~ ^{type} log in the area would show red beds from 300 to 1,000 feet, anhydrite from 1,000 plus or minus 1200 feet, salt from 1,200 to 2,400 feet, anhydrite and shales from 3,700 feet, which is approximately the top of the Grayburg. Surface casing in the area, a large percentage of the wells are laying in the surface, is laying in the red beds. We have some few wells with 1,000 feet more or less, and surface pipes land in the anhydrite, maximum depth of fresh water in the area, the Caprock crosses it. Our portion of the Maljamar Field, Caprock in this area is Ogallala. We have fresh water at approximately 300 feet on the Caprock. Below the Caprock we would have a maximum of 150 feet. There is no Ogallala present under the Caprock in this area and we see no danger to the fresh water resources.

Q Are there any fresh water resources in this immediate area?

A Yes, sir, on the Caprock there are several source wells.

Q But other than that, there would be no water that could be contaminated, is that correct?

A No, sir.

Q In your opinion, is there any danger of contamination of the fresh water?

A No, sir.

(Whereupon, Applicant's Exhibit 5 marked for identification.)

Q Referring to what has been marked as Exhibit Number 5, would you identify that exhibit, please?

A Yes, sir, these are thirteen diagrammatic sketches of our proposed completion procedures on the proposed wells. We would prefer to start injecting fresh water down the casing in these wells, run radioactive profile surveys after we have established a steady state condition in the wells; then view all wells to provide us with a good profile, make sure we flood the entire Grayburg Formation.

Q Will you use tubing in the event that you use other than fresh water?

A Yes, sir.

Q Is that the system that is presently being used?

A Yes, sir, the five wells we are using are projecting through tubing.

Q Will the expansion of the project include the injection of additional produced salt water?

A Yes, sir, and as more produced water becomes available we will reinject it.

Q Will salt water be injected down the casing?

A No, sir.

Q Will you use coupons to detect any probability of corrosion in the casing or tubing?

A We have installed in our water-handling system what is called a corrater, which measures the corrosivity of the water passing the probe that sticks into the gathering line. We have calibrated this corrater against coupon tests and the corrater has read consistently higher than coupon tests.

Q You consider the use of the corrater -- how do you spell that, please?

A C-o-r-r-a-t-e-r.

Q You consider the use of that instrument as satisfactory as compared to the use of coupons?

A Yes, sir.

Q It gives adequate protection?

A Yes, sir.

dearnley-meier reporting services, inc.

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

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87101
1205 FIRST NATIONAL BANK EAST • PHONE 256-1264 • ALBUQUERQUE, NEW MEXICO 87108

Q Was this been discussed with the Oil Conservation Commission?

A Mr. Ramey looked at the corratel setup in May of this year. Since that time, we ran the coupon calibration of the corratel.

Q Now, which of the thirteen wells will be used for salt water injection?

A If the salt water is available, we will start with the Jackson Federal and Atlantic Federal Number One. They are the two most northeast wells of the Exhibit Number 2.

Q As shown by the diagrammatic sketches, will the cement and casing program be adequate to confine the injection water, whether it be salt or fresh water, to the Grayburg Formation?

A Yes, sir, we will also be running profile surveys to determine the way the water will be split up into zones we are flooding and the by-product of these profile surveys will show us channeling or any other undesirable condition, that we will correct.

Q How often will these profile surveys be run?

A Every six to eight months.

Q What pressure rate did you say you anticipated?

A There should be no change, probably 2,700 pounds maximum.

Q Not in excess of 3,000?

A No, sir.

Q What is the condition of the casing in these wells?

A Today we have repaired one casing string. We ran a smaller string in a larger string in an injection well.

Q The profile survey will show up casing leaks?

A Yes, sir.

Q In your opinion, will the running of profile surveys be adequate to determine whether any leakage is occurring in the future operation of these wells?

A Yes, sir.

(Whereupon, Applicant's
Exhibit 6 marked for
identification)

Q Referring to what has been marked as Exhibit Number 6 --

A Exhibit Number 6 is a production curve showing Standard of Texas production experience since we took over in March of 1965. This does not, by the way, include Cima Capitan's production.

Q Now, does that graph show any indication of a response from the water injection program that has been followed up to date?

A Yes, sir, if you will notice in May of 1965 we achieved a response, quite a good response in fact. We have

dearney-meier

SPECIALIZING IN

DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS
1120 SIMAS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87101
1205 FIRST NATIONAL BANK EAST • PHONE 236-1294 • ALBUQUERQUE, NEW MEXICO 87108

PAGE 18

run into producing troubles that are, the declines are masking further response as shown in the later portion of the curve and we are working hard to correct those troubles.

Q In your opinion, will the flooding of this area or the expansion of that present waterflood result in the production of oil that would not otherwise be produced?

A Yes, sir.

Q To that extent, would it be in the interest of preventing waste?

A Yes, sir.

Q Under the terms of the Unit Agreement and the terms of the waterflood, will the correlative rights of all the parties involved be protected?

A Yes, sir.

Q And will the correlative rights, in your opinion, of Cima Capitan be adversely affected by your operations?

A No, sir.

Q As a matter of fact, they would be helped?

A Yes, sir.

MR. KELLAHIN: If the Examiner please, we have a copy of a letter directed to the Commission from Mr. Frank E. Irby, Office of the New Mexico State Engineer stating they have no objection to the granting of approval to this application, provided the conditions of approval are sufficient

dearnley-meier reporting service inc.

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

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87101
1205 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO 87108

NFX

to give the same protection as those included in Order WHX 150 and in the Commission's letter of March 11, 1966, which pertains to Order 3035 in Case 3668. Other than the fact that we would like to use the electronics ^{device} ~~we~~ advise in lieu of use of coupons Standard of Texas has no objection to the conditions laid down by the Office of the State Engineer.

MR. NUTTER: It seems to me that I recall some correspondence or discussions with your office regarding this corratel or whatever you call that thing, for detecting corrosion. This was authorized to be used in lieu of the coupon tests, which were specified in that letter you had.

MR. KELLAHIN: That's the reason I would like to point out the exception we had. We would be happy to discuss it with the State Engineer, if you want any information.

MR. NUTTER: I think the purpose of Mr. Ramey's visit to your lease was to determine whether this was an adequate substitute for the coupons?

A Yes, sir, as far as I understand.

MR. NUTTER: Your experience to date is that this instrument is more reliable than coupons?

A Yes, sir, it reads consistently higher, which is on the safe side. It's on the conservative side. It reads higher than the coupon tests we have run.

Q (By Mr. Kellahin) Were Exhibits 2 through 6 prepared

by you or under your supervision?

A Yes, sir.

MR. KELLAHIN: I would like to offer Exhibits 2 through 6.

MR. NUTTER: Exhibits 2 through 6 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 2-6 admitted in evidence.)

MR. NUTTER: Does anyone have any questions of Mr. Webb?

BY MR. NUTTER:

Q Your Exhibit Number 3 shows that approximately 760 barrels per day of produced water is currently being reinjected. Exhibit Number 6 shows that you are presently producing almost a thousand barrels of water per day.

A Yes, sir.

Q Is it your intent to reinject all of the produced water?

A Yes, sir, we are not doing it at the present time, as you see, but if we were granted approval here, we will be consolidating batteries and will be able to get our salt water into one place.

Q Some of the water production at this time is probably isolated and can't be gathered into your injection

system, but ultimately you would reinject all produced water?

A Yes, sir.

Q Any well in which you do inject produced water will be equipped with tubing and packer?

A Yes, sir.

Q Now, this corrosion detecting device or corrosivity detecting device, is that run on the injection streams for the produced water only or also in your fresh water?

A Both fresh water streams.

Q Profile surveys are run on these wells as a matter of routine every six to eight months?

A Yes, sir.

Q Is that also true when you have tubing in the well and down the casing?

A We actually run the profile surveys for a different reason, to allocate the water that we have injected to the different wells to maintain an even flood front.

Q You have several sets of perforations in each of these wells, I notice.

A Yes, sir.

Q There is no attempt to isolate these zones with packers or anything like that?

A Yes, sir, there is. As I mentioned earlier, we want to start down the casing, then run profile surveys then we will

place a packer if necessary.

Q Then you would be injecting down the tubing into one zone and down the casing into another zone?

A Yes, sir.

Q But in any event, when you are going down the casing that's going to be fresh water? Any further questions of Mr. Webb? He may be excused.

MR. KELLAHIN: That's all we have on these cases, Mr. Nutter.

MR. HATCH: I would like to point out that the Commission does have the letter to which Mr. Kellahin referred. I won't read it into the record.

MR. NUTTER: Date of that letter?

MR. HATCH: December 23, 1966, Frank E. Irby, Chief, Water Rights Division.

MR. NUTTER: Was the letter of December 23rd the one you had reference to, Mr. Kellahin?

MR. KELLAHIN: Yes, sir.

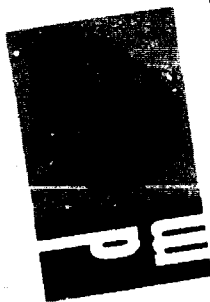
MR. NUTTER: We will take those cases under advisement.

dearnley-meier reporting service, inc.

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

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87101

1205 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO 87108



STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss

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

Kay Embree
Court Reporter

1-4
3506-3507
1967
Watt



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

December 23, 1966

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

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

Dear Mr. Porter:

Reference is made to the application of Standard Oil Company of Texas, which seeks approval of the Maljamar Grayburg Unit Agreement and approval of the expansion of its Maljamar Water-flood Project authorized by Orders Nos. R-1538, R-2777, WFX-150, WFX-172 and R-3035.

This office offers no objection to the granting of the application, provided the conditions of approval are sufficient to give the same protection as those included in Order WFX-150 and in the Commission's letter of March 11, 1966 (second paragraph) which pertains to Order R-3035 in Case #3368.

FEI/ma
cc-J. W. Kellahin
F. H. Hennighausen

Yours truly,

S. E. Reynolds
State Engineer

By: *Frank E. Irby*
Frank E. Irby
Chief
Water Rights Div.

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

March 6, 1967

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Dear Sir:

Reference is made to Commission Order No. R-3178 recently entered in Case No. 3507, approving the expansion of Standard Oil Company's Maljamar-Grayburg Waterflood Project.

Injection into each of the 13 authorized injection wells in the subject waterflood expansion may be through the casing if fresh water only is being injected. However, as soon as any salt water or recycled water is injected into any well, said well shall be equipped with tubing and a packer, and a corrosion detecting device (either coupons or corrater) employed. Packers shall be set as near as is practicable to the uppermost perforation in the casing.

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 3220 barrels per day when the basic normal unit allowable is 42 barrels per day or less. This is based upon your Exhibit A at the hearing which indicates there will be a total of 33 injection 40's, 42 production 40's, and two extra wells.

COPY

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

-2-

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

March 6, 1967

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

ALP/DSM/ir

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

Oil Conservation Commission - Hobbs, New Mexico

U. S. Geological Survey - Hobbs, New Mexico

State of New Mexico
Oil Conservation Commission



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

Re: Case No. 3507
Order No. R-3178
Applicant:
STANDARD OIL CO. OF TEXAS

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

Other _____

BEFORE EXAMINED NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. <u>2</u>
CASE NO. <u>22-22-10-10</u>

DATA SHEET
STANDARD OIL COMPANY OF TEXAS
MALJAMAR-GRAYBURG WATERFLOOD PROJECT

Formation
Composition
Average Depth
Structure

Grayburg
Dolomitic Sands
4050'
Anticline

Unit Area

	<u>No. of Producing Wells</u>	<u>No. of Injection Wells</u>	<u>Undeveloped 40-Acre Units</u>	<u>Total 40-Acre Units</u>
Standard of Texas	55	21	8	81
Cima Capitan	3	-	1	4
Phillips	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>
	59	21	9	86

Area: 3441 Acres

Injection Data

Source No. 1: Fresh water supplied by Company operated water well (NE NE SE Section 1, T-17-S, R-32-E) producing from Tertiary sands at 270 feet. This water is furnished to Section 10 (Unit B) waterflood plant.

Source No. 2: Fresh water purchased from Double-Eagle Corporation of New Mexico. Water is furnished at Section 4 (Unit K) plant.

Source No. 3: Currently 760 bbls. of produced water per day are being injected in five injection wells. The five injection wells are:

1. Iles Federal #2 (Section 10 Unit B) - 100 BWPD
2. Iles Federal #5 (Section 3 Unit P) - 150 BWPD
3. Iles Federal #8 (Section 3 Unit J) - 125 BWPD
4. Iles X Federal #2 (Section 10 Unit D) - 200 BWPD
5. Iles X Federal #3 (Section 10 Unit F) - 185 BWPD

The current water production in the Unit Area is 950 BWPD. As more produced water becomes available additional wells will be converted to the produced water injection system. All produced water is injected down tubing and under packers. The produced water is scavenged, filtered and inhibited before injection.

Water Analyses: All data in Mg/liter

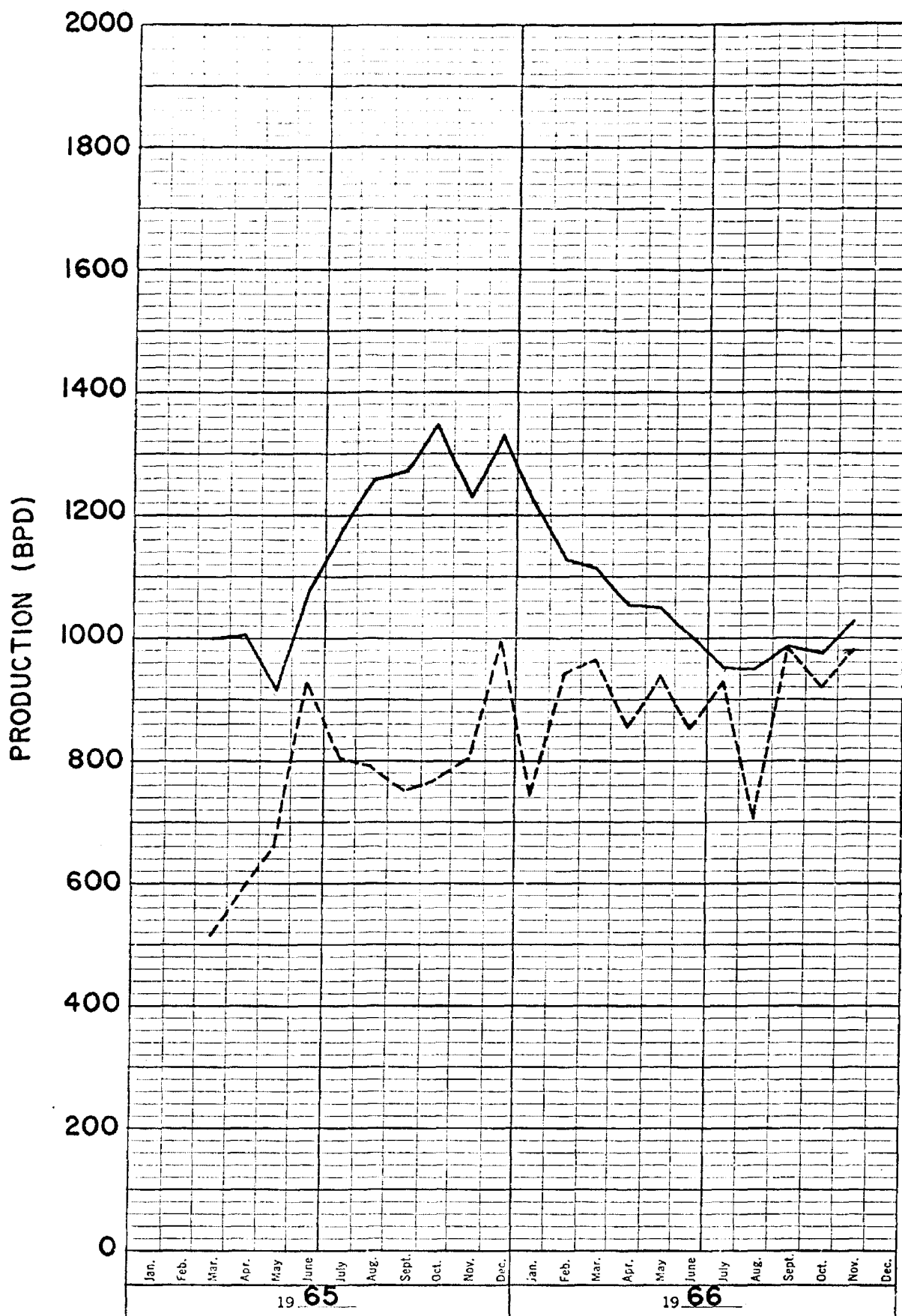
	<u>Source 1</u>	<u>Source 2</u>	<u>Source 3</u>
Ph	7.1	7.3	7.5
CO ₂	17.0	16.0	14.0
O ₂	7.5	9.5	0
H ₂ S	0	0	12

	<u>Source 1</u>	<u>Source 2</u>	<u>Source 3</u>
SiO ₂	0.2	0.3	4.3
HCO ₃	180	190	260
Cl	26	26	35,500
CaCO ₃	190	180	11,000
Ca	47	48	2,525
Mg	17	14	1,125
SO ₄	25	20	3,350
Fe	0.08	0.06	0.1
Solids	300	300	62,200

Present Injection Rate 4800 BWPB
 Anticipated Injection Rate
 After Expansion 8000 BWPB
 Present Injection Pressure 300-2700 psig
 Cumulative Water Injected (11-1-66) 4,496,000 bbls.

STANDARD OIL COMPANY OF TEXAS
MALJAMAR-GRAYBURG WATERFLOOD
WELLS TO BE ADDED TO PROJECT AREA
BY PROPOSED EXPANSION

<u>Lease</u>	<u>Well</u>	<u>Unit</u>	<u>Section</u>	<u>Requested Allowable</u>
Iles Federal	1	M	9-17-32	2
Iles Federal	11	N	9-17-32	Input
Iles Federal	38	K	9-17-32	11
Iles Federal	39	L	9-17-32	Input
Iles X Federal	4	O	9-17-32	3
Jackson Federal	1	A	3-17-32	Input
Mitchell	1	P	8-17-32	Input
Mitchell	2	O	8-17-32	3
Mitchell	3	I	8-17-32	T.A.
A. C. Taylor "C"	1	E	14-17-32	11
A. C. Taylor "D"	1	F	14-17-32	T.A.
Phillips State "A"	1	E	2-17-32	Input



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO. 2506-2507

STANDARD OIL CO. OF TEXAS
MALJAMAR UNIT AREA

Production Experience Since
Sotex Acquisition

BOPD _____

BWPD -----

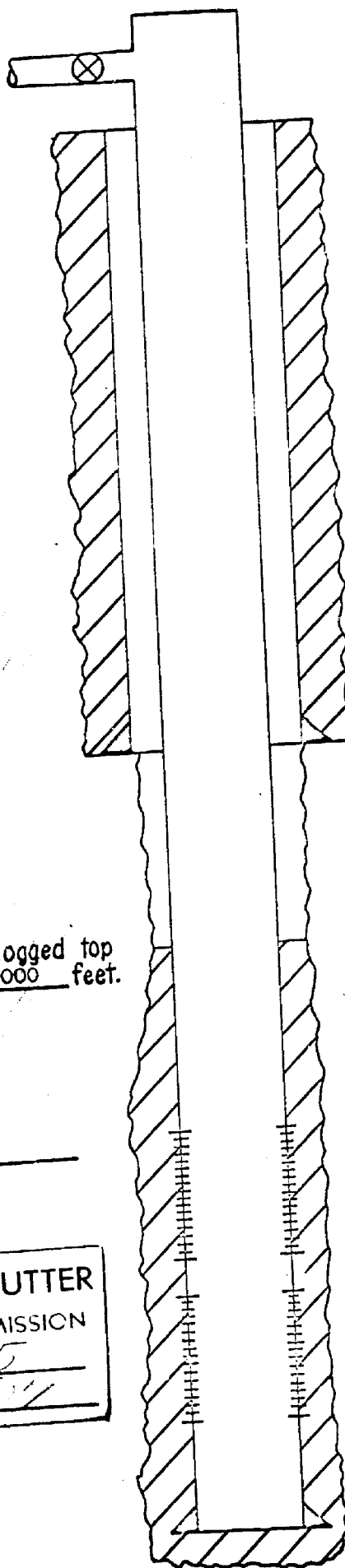
Cumulative production to 12-1-66

Oil 2,167,310 bbls

Water 790,881 bbls

PROPOSED WATER INJECTION WELL

WELL NAME AND NUMBER Sotex - Mitchell Federal No. 1
LOCATION Unit P 8-17-S. 32E



8-5/8" Casing set at 940 Feet.
Cemented with 50 sacks of cement.

Calculated or logged top
of cement at 3000 feet.

Proposed Additional
Perforations 0

Existing
Perforations Open hole 3575 to 4852
Plugged back to 3860' w/
gravel.

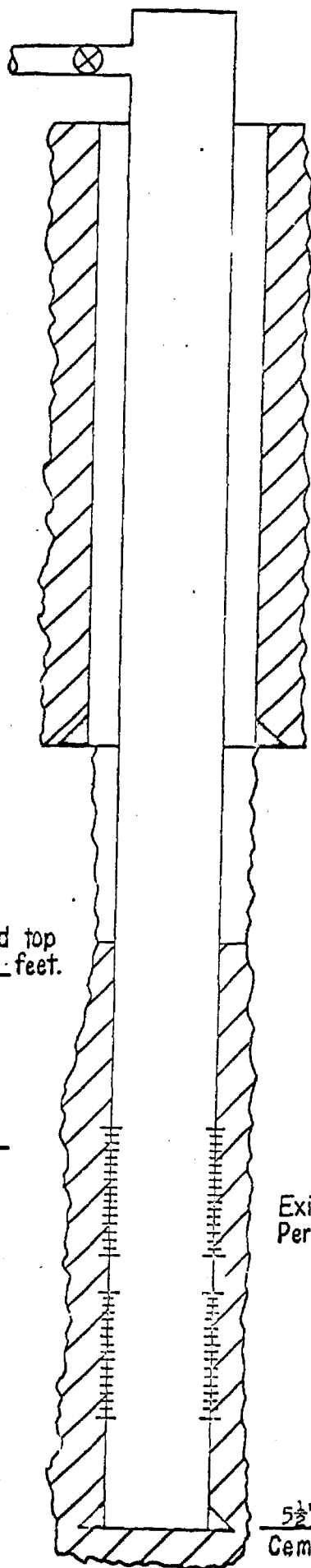
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 3866-3504

7" Casing set at 3575 Feet.
Cemented with 100 sacks of cement.

T.D. at 4152 Feet

PROPOSED WATER INJECTION WELL

WELL NAME AND NUMBER Sotex - Iles Federal No. 29
 LOCATION Unit P 10-17S-32E



Cement circulated at the surface
for 8-5/8" casing.

8-5/8" Casing set at 294 Feet.
Cemented with 225 sacks of cement.

Calculated or logged top
of cement at 2000 feet.

Proposed Additional
Perforations 3856-62
3908-12
3920-26
3938-42
3950-54
4004-08

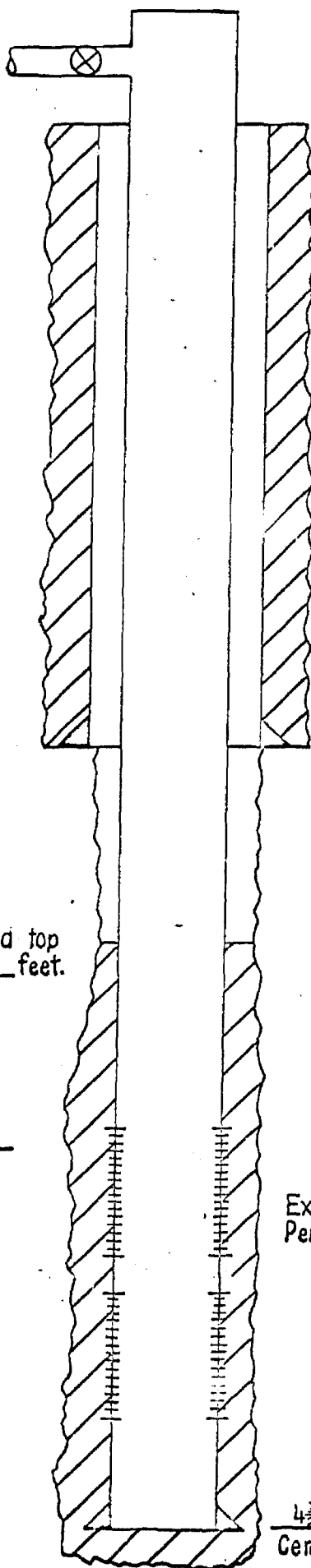
Existing
Perforations 3886-96
3992-96
4016-20
4028-36

5 1/2" Casing set at 4090 Feet.
Cemented with 350 sacks of cement.

T.D. at 4090 Feet

PROPOSED WATER INJECTION WELL

WELL NAME AND NUMBER Sotex - Tles Federal No. 37
 LOCATION Unit F 9-17S-32E



Cement circulated at the surface
 for 8-5/8" casing.

8-5/8" Casing set at 299 Feet.
 Cemented with 150 sacks of cement.

Calculated or logged top
 of cement at 2500 feet.

Proposed Additional
 Perforations 0

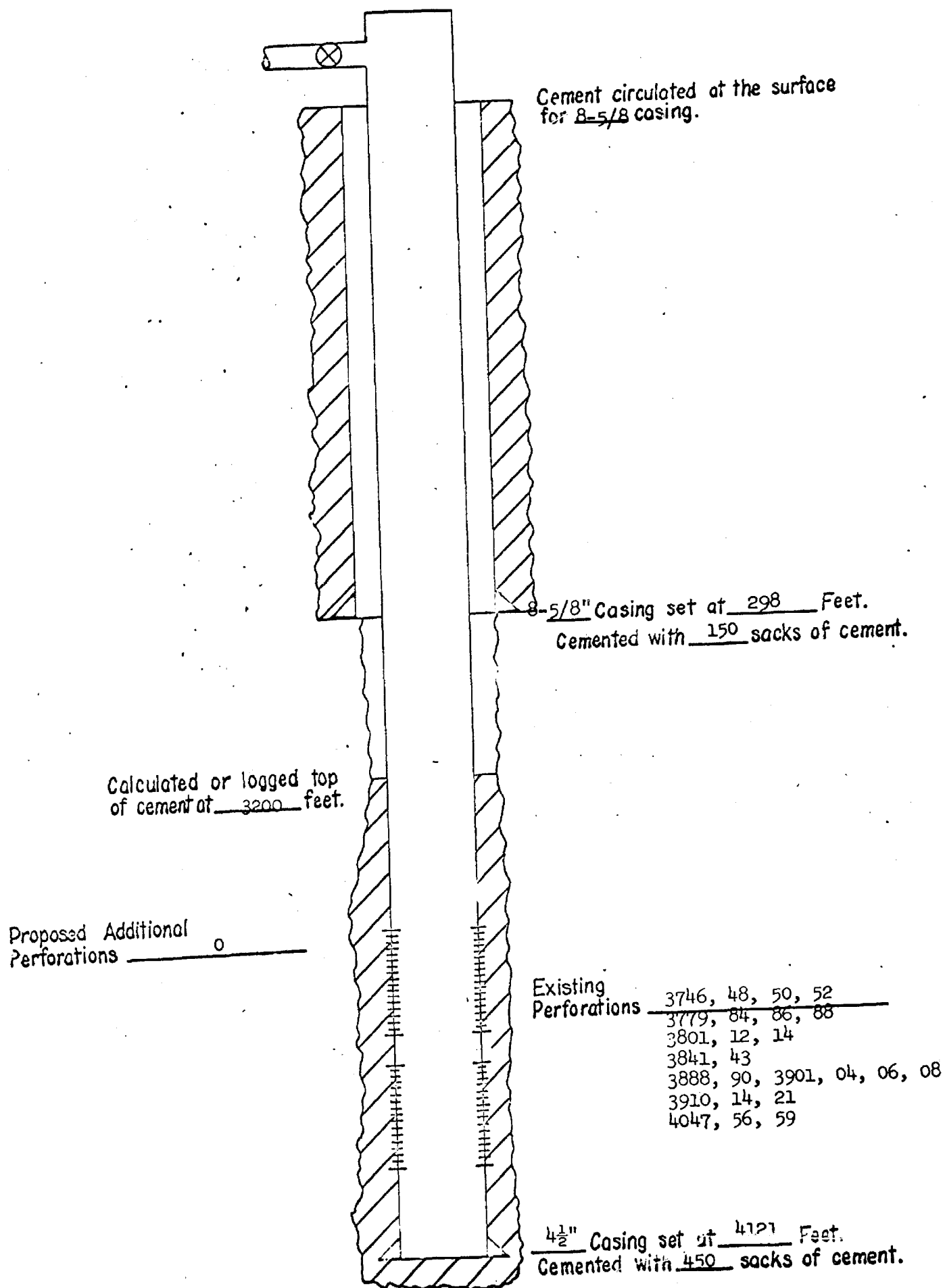
Existing
 Perforations 3785, 87, 89, 91
3813, 15, 20, 22, 24
3835, 37, 47, 49, 51, 53
3864, 66, 75, 77
3897, 99
3911, 13, 15, 22, 24, 36,
38, 40, 42
3944, 46, 50
4071, 78, 81, 83

4 1/2" Casing set at 4150 Feet.
 Cemented with 535 sacks of cement.

T.D. at 4150 Feet

PROPOSED WATER INJECTION WELL

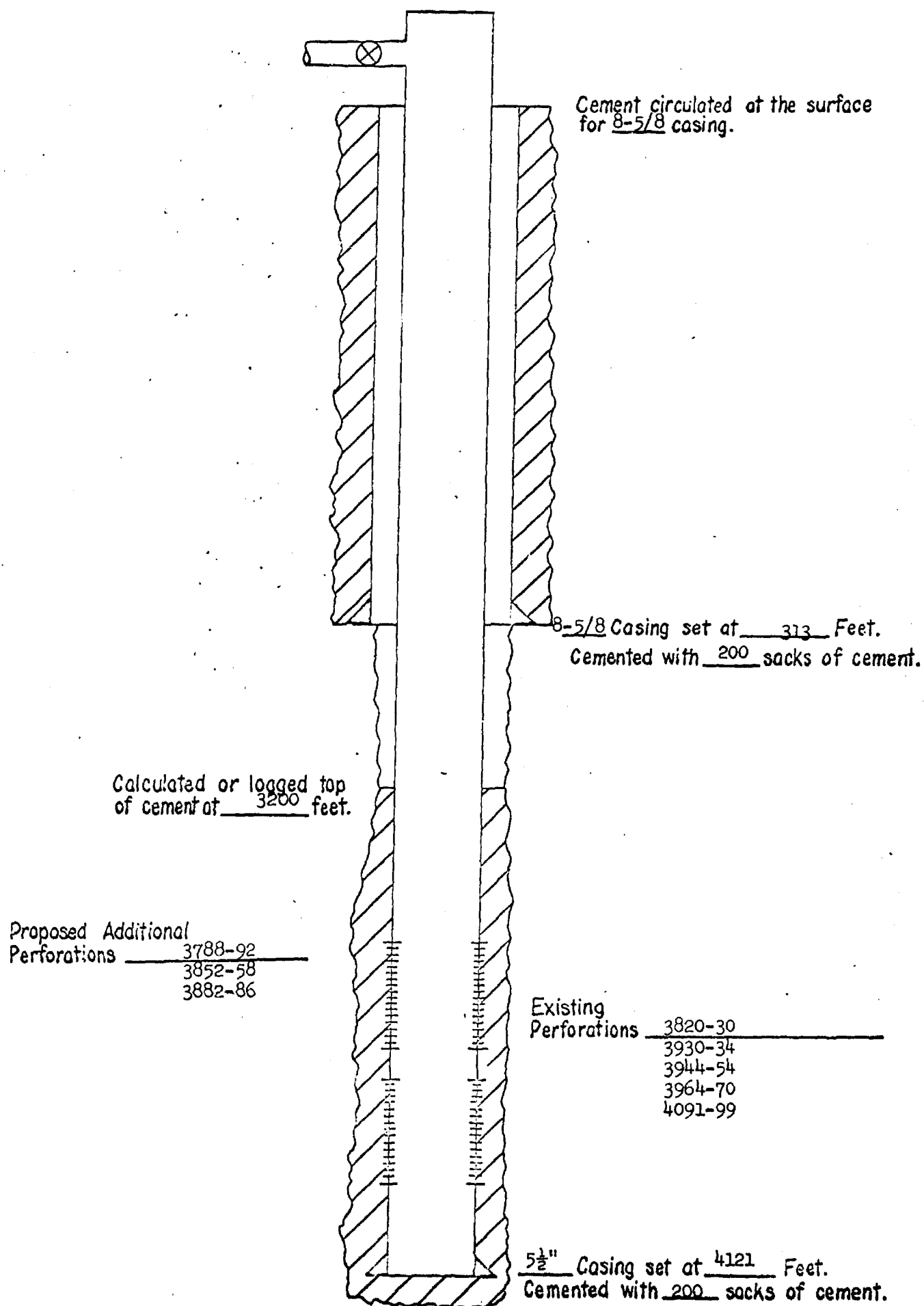
WELL NAME AND NUMBER Sotex - Iles Federal No. 39
 LOCATION Unit L 9-17S-32E



T.D. at 4121 Feet

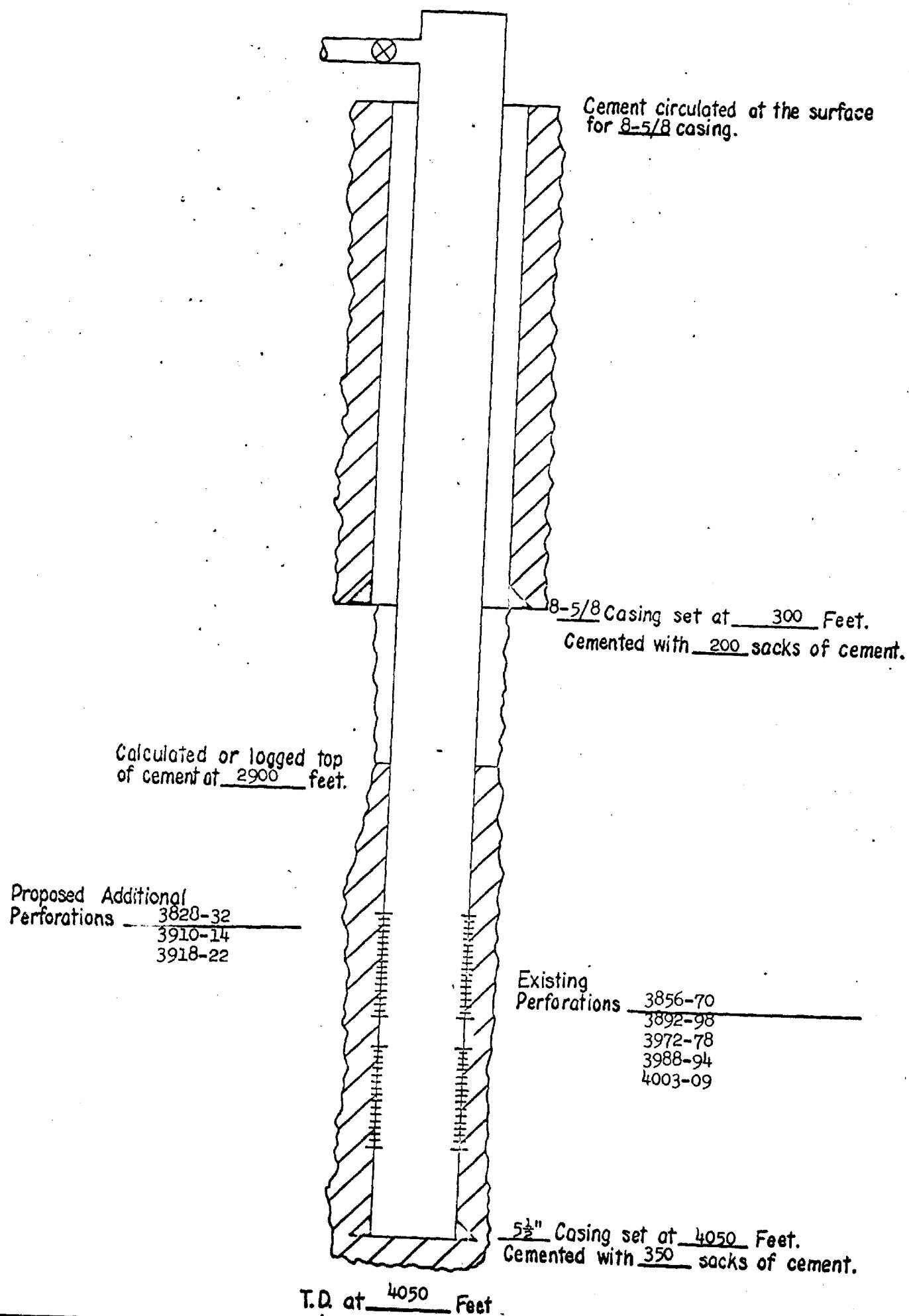
PROPOSED WATER INJECTION WELL

WELL NAME AND NUMBER Sotex - A. C. Taylor et al No. 1
LOCATION Unit J - 9-17-S-32-E



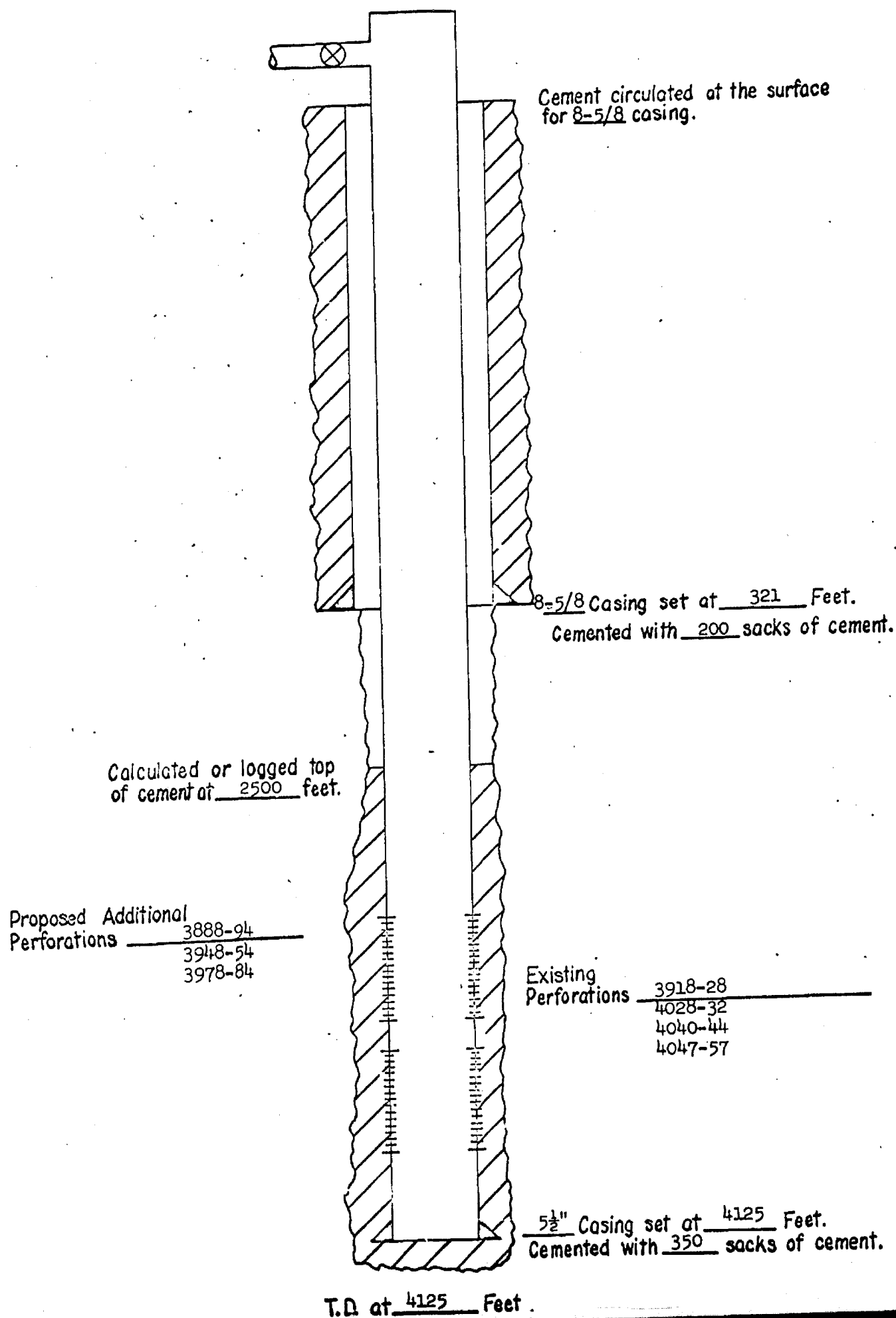
PROPOSED WATER INJECTION WELL

WELL NAME AND NUMBER Sotex - A. C. Taylor "C" No. 2
LOCATION Unit D 14-17S-32E



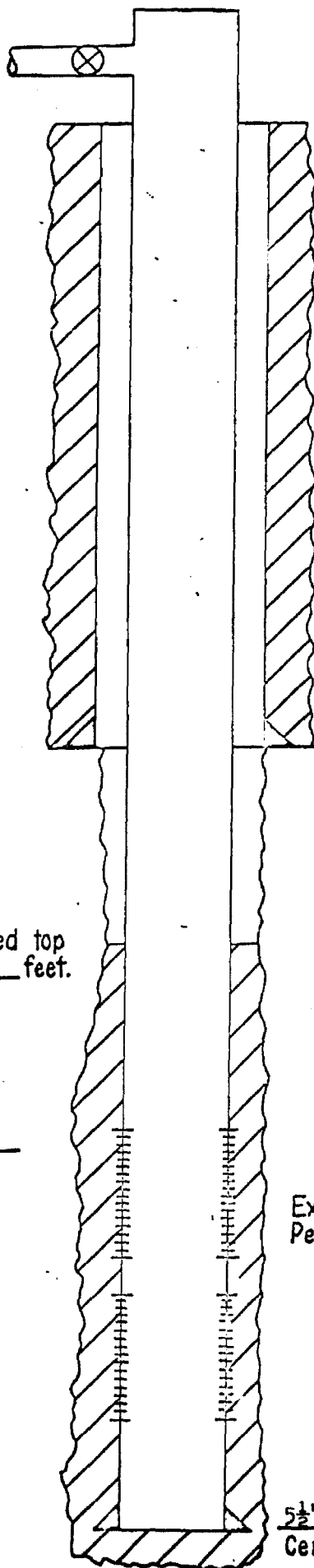
PROPOSED WATER INJECTION WELL

WELL NAME AND NUMBER Sotex - A. C. Taylor "E" No. 2
LOCATION Unit L 11-17S-32E



PROPOSED WATER INJECTION WELL

WELL NAME AND NUMBER Sotex - Atlantic Federal No. 2
 LOCATION Unit H 4-17S-32E



Cement circulated at the surface
 for 8-5/8 casing.

8-5/8 Casing set at 323 Feet.
 Cemented with 250 sacks of cement.

Calculated or logged top
 of cement at 3000 feet.

Proposed Additional
 Perforations 3970-80
4028-38

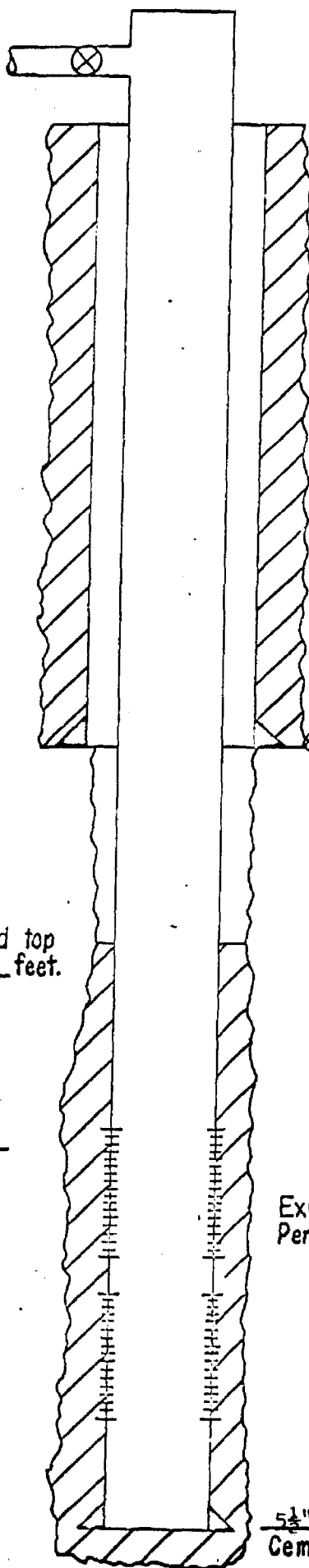
Existing
 Perforations 4005-11
4058-61
4077-83
4087-89
4093-97
4120-23
4126-28
4176-81
4183-90

5 1/2" Casing set at 4407 Feet.
 Cemented with 300 sacks of cement.

T.D. at 4410 Feet.

PROPOSED WATER INJECTION WELL

WELL NAME AND NUMBER Sotex - Iles "X" Federal No. 5
 LOCATION Unit P 9-17S-32E



Cement circulated at the surface
 for 8-5/8 casing.

8-5/8 Casing set at 308 Feet.
 Cemented with 175 sacks of cement.

Calculated or logged top
 of cement at 3100 feet.

Proposed Additional
 Perforations 3798-3804
3868-72
3885-89
3932-40
3944-48

Existing
 Perforations 3830-44
3958-72
4096-4110

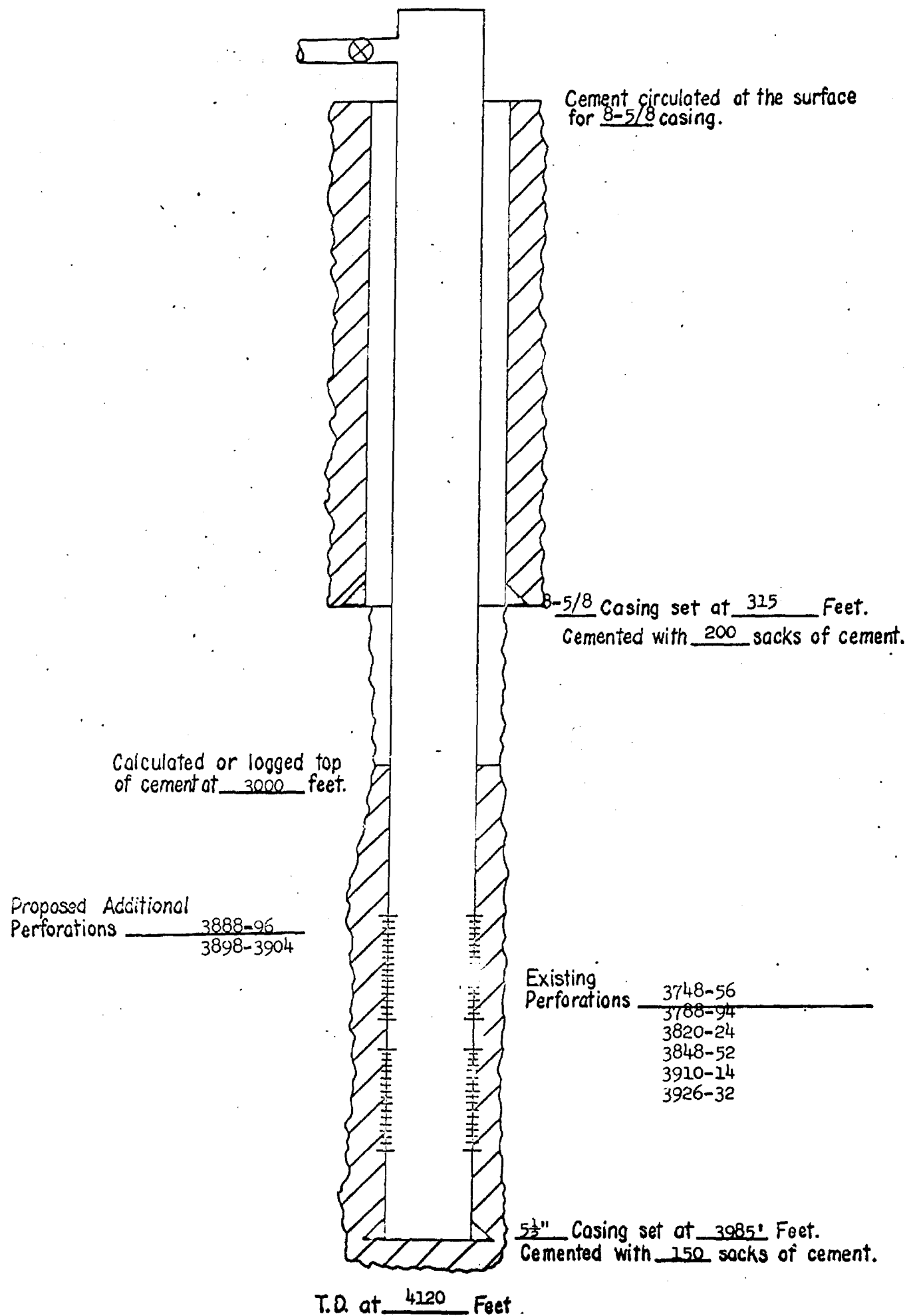
5 1/2" Casing set at 4144 Feet.
 Cemented with 150 sacks of cement.

T.D. at 4144 Feet

PROPOSED WATER INJECTION WELL

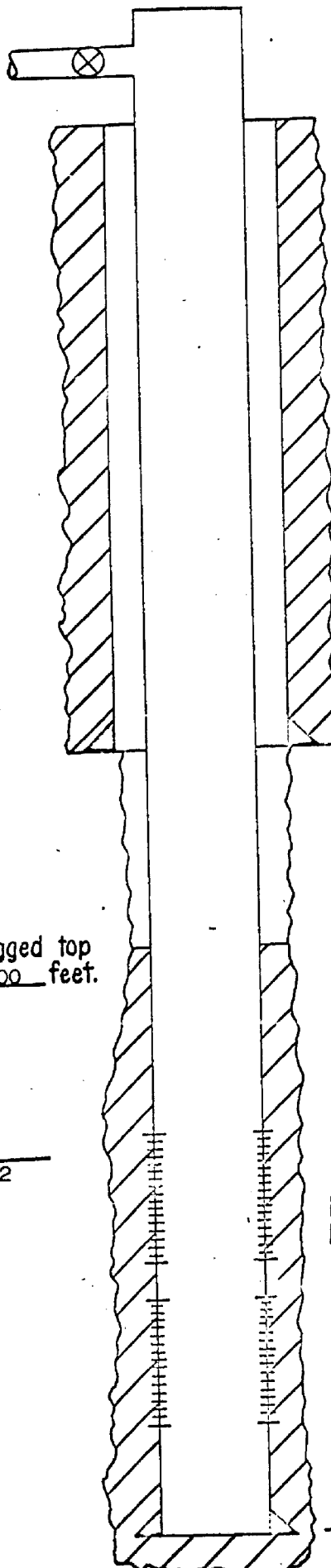
WELL NAME AND NUMBER Sotex - Iles Federal No. 11
 LOCATION Unit N 9-17S-32E

X



PROPOSED WATER INJECTION WELL

WELL NAME AND NUMBER Sotex - Jackson Federal No. 1
 LOCATION Unit A 3-17S-32E



Cement circulated at the surface
 for 8-5/8 casing.

8-5/8 Casing set at 296 Feet.
 Cemented with 250 sacks of cement.

Calculated or logged top
 of cement at 2300 feet.

Proposed Additional
 Perforations 4066-70
4096-4102
4128-34
4154-60
4206-12

Existing
 Perforations 4105-08
4185-88
4196-4201
4235-38
4243-46
4378-88

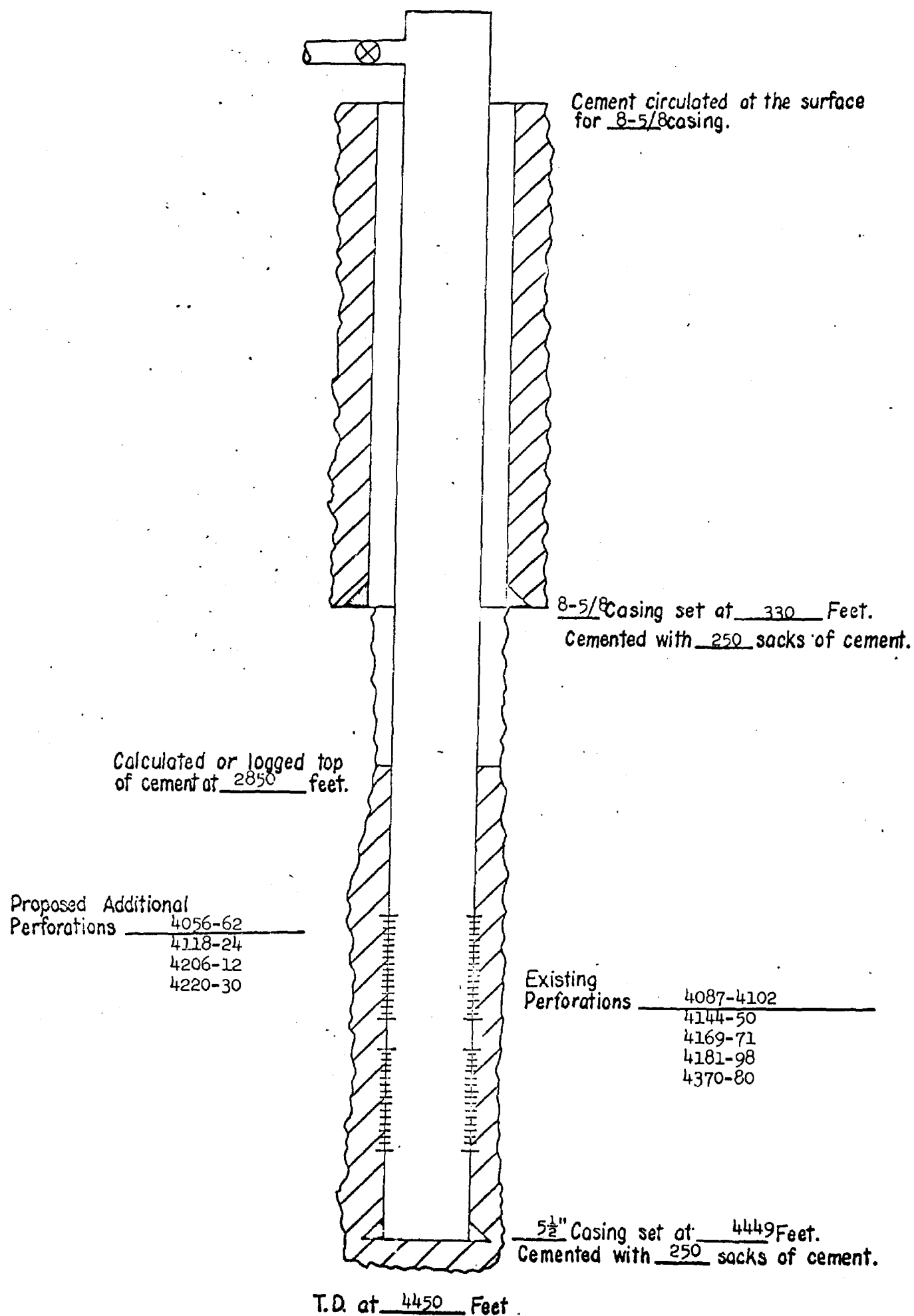
5 1/2" Casing set at 4405 Feet.
 Cemented with 300 sacks of cement.

T.D. at 4405 Feet

PROPOSED WATER INJECTION WELL

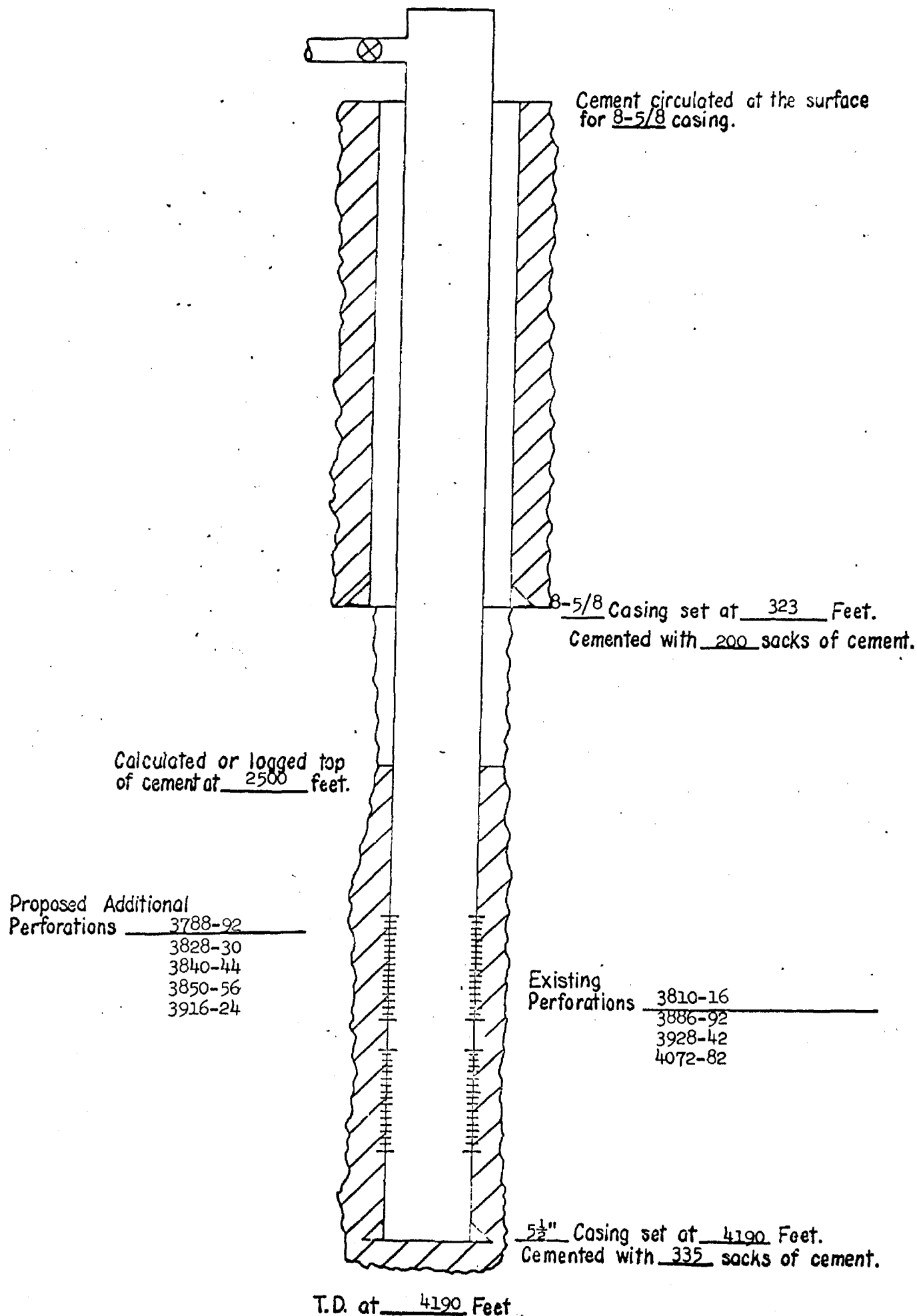
WELL NAME AND NUMBER Phillips Mexco State "A" No. 1
 LOCATION Unit E 2-17S-32E

X



PROPOSED WATER INJECTION WELL

WELL NAME AND NUMBER Sotex - Iles Federal No. 18
 LOCATION Unit H 15-17S-32E



OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 1/9/67

CASE NO. 3507

HEARING DATE 9 am 1/4/67
DSN @ SF

My recommendations for an order in the above numbered case(s) are as follows:

Given an order approving the
expansion of Std of Texas Indus
~~Grayburg~~ Wamplowd Project by converting
to water injection the following

Phillips Mexco State "A"	1	E	2-17-32
Standard Jackson Fed	1	A	3-17-32
Standard Atlantic Fed	2	H	4-17-32
" Mitchell Fed	1	P	8-17-32
" A.C. Taylor et al	1	J	9-17-32
" Iles Fed	11	N	9-17-32
" Iles Fed	37	F	9-17-32
" Iles Fed	39	L	9-17-32
" Iles "X" Fed	5	P	9-17-32
" Iles Fed	29	P	10-17-32
" A.C. Taylor "E"	2	L	11-17-32
" A.C. Taylor "C"	2	D	14-17-32
" Iles Fed	18	H	15-17-32

Injection is to be into the Grayburg formation.

[Signature]

BEFORE THE OIL CONSERVATION COMMISSION
OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF
STANDARD OIL COMPANY OF TEXAS FOR
APPROVAL OF THE MALJAMAR GRAYBURG
UNIT, LEA COUNTY, NEW MEXICO AND FOR
EXPANSION OF THE STANDARD OIL COMPANY
OF TEXAS MALJAMAR WATERFLOOD PROJECT

A P P L I C A T I O N

Comes now STANDARD OIL COMPANY OF TEXAS and applies to
the Oil Conservation Commission of New Mexico for approval of
the Maljamar Grayburg Unit agreement, and for approval of the
expansion of its Maljamar waterflood project authorized by
Orders Nos. R-1538, R-2777, WFX 150, WFX 172 and R-3035, and
in support thereof would show the Commission:

1. Applicant seeks approval of the Maljamar Grayburg
Unit agreement, covering a total of 3,441 acres, more or less,
consisting of federal, state and fee lands, in Lea County,
New Mexico. A copy of said Unit agreement is submitted as
a separate exhibit to this application, and made a part
hereof. Unitized lands are more specifically described as:

Township 17 South, Range 32 East, N.M.P.M.

Section 2 - SW $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$
Section 3 - All
Section 4 - S $\frac{1}{2}$, NW $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{2}$
Section 8 - E $\frac{1}{2}$
Section 9 - All
Section 10 - All
Section 11 - SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$
Section 14 - NW $\frac{1}{4}$
Section 15 - NE $\frac{1}{4}$

2. Applicant further proposes to expand its present
waterflood project heretofore approved by the Commission by
the addition of thirteen wells for the injection of water. As

DOCKET MAILED

Date 12-22-66

required by Rule 701, there is attached hereto and made a part of this application, the following exhibits:

(a) A plat showing the unit area, together with the location of present and proposed injection wells, and other wells in the vicinity of the proposed project area.

(b) A type log of the A. C. Taylor et al., No. 3 well, located 1800 feet from the North line and 660 feet from the East line of Section 9, Township 17 South, Range 32 East.

(c) Diagrammatic sketches of the proposed injection wells showing casing strings, setting depths, cementing program and other pertinent information.

3. It is proposed the injection will be into the Grayburg formation, as heretofore approved by the Commission.

4. Applicant proposes to inject fresh water obtained from its well located in Section 1, Township 17 South, Range 32 East, fresh water obtained from Double-Eagle Corporation, and produced water, presently being injected at the rate of 760 barrels per day, all as is more fully shown on data sheet attached as an exhibit to this application, and made a part hereof.

5. There is also attached hereto and made a part of this application, a production graph showing production experience in the unit area since acquisition of the project by applicant.

6. Applicant requests the establishment of an administrative procedure for the addition of injection wells whether such wells have received a response or are offset by wells having received a response, or not.

7. By copy of this application, together with attached exhibits, notice is being given to the office of the New Mexico

State Engineer.

WHEREFORE, applicant prays that this application be set for hearing before the Commission's duly appointed examiner, and that after notice and hearing as required by law, the Commission enter its orders approving the proposed unit agreement and waterflood expansion as prayed for.

Respectfully submitted,

STANDARD OIL COMPANY OF TEXAS

Original Signed By
BY: Jason W. Kellahin
KELLAHIN & FOX
Box 1769
Santa Fe, New Mexico

ATTORNEYS FOR APPLICANT

DOCKET: EXAMINER HEARING - WEDNESDAY, JANUARY 11, 1967

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

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

CASE 3439: (This case continued from the October 11, 1966 examiner hearing
and will be dismissed).

In the matter of the hearing called by the Oil Conservation
Commission on its own motion to permit Scanlon and Shepard and
all other interested parties to show cause why the following
Scanlon and Shepard wells in Township 20 North, Range 9 West,
McKinley County, New Mexico, should not be plugged and abandoned
in accordance with a Commission-approved plugging program:
Santa Fe Pacific Railroad Lease: Wells Nos. 1, 3, 4, 5, 7, and
8, all in Unit P, No. 10 in Unit H, and No. 2 in Unit L, all in
Section 21; Well No. 6 in Unit L and Nos. 9 and 12 in Unit M
of Section 22 and Nos. 11 and 13 in Unit D of Section 27, Ray
Well No. 1 in Unit C, State Wells Nos. 1 and 2 in Unit A, and
State K-1883 No. 1 in Unit B, all in Section 28.

CASE 3440: (This case continued from the October 11, 1966, examiner
hearing and will be dismissed).

In the matter of the hearing called by the Oil Conservation Com-
mission on its own motion to permit Osborn & Weir, and all inter-
ested parties, to show cause why the following Osborn & Weir
wells in Township 20 North, Range 9 West, McKinley County, New
Mexico, should not be plugged and abandoned in accordance with a
Commission-approved plugging program: Scanlon Well No. 17 in Unit P
of Section 21 and Nos. 14 and 18 in Unit M of Section 22, Scanlon
Ray Wells No. 5 in Unit A and No. 6 in Unit C of Section 28.

CASE 3441: (This case continued from the October 11, 1966, examiner hearing
and will be dismissed).

In the matter of the hearing called by the Oil Conservation
Commission on its own motion to permit LaMar Trucking, Inc.,
and all interested parties, to show cause why their State Well
No. 1 located 495 feet from the North and West lines of
Section 28, Township 20 North, Range 9 West, McKinley County,
New Mexico, should not be plugged and abandoned in accordance
with a Commission-approved plugging program.

CASE 3506: Application of Standard Oil Company of Texas for a unit agreement,
Lea County, New Mexico. Applicant, in the above-styled cause,
seeks approval of the Maljamar-Grayburg Unit Area comprising
3,441 acres, more or less, of Federal, State and Fee lands in

(Case 3506 continued)

Sections 2, 3, 4, 8, 9, 10, 11, 14, and 15, Township 17 South, Range 32 East, Lea County, New Mexico.

CASE 3507: Application of Standard Oil Company of Texas for a water-flood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Maljamar-Grayburg Waterflood Project in its proposed Maljamar-Grayburg Unit Area by the injection of water into the Grayburg formation through thirteen additional injection wells. Applicant also seeks administrative procedure for further expansion of said project at a later date.

CASE 3508: Application of Phillips Petroleum Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the approval of the Vacuum Abo Unit Area, comprising 3640 acres, more or less, of State and Fee lands in Townships 17 and 18 South, Range 35 East, Lea County, New Mexico.

CASE 3509: Application of Phillips Petroleum Company for a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project in its Vacuum-Abo Unit by the injection of gas into the Abo Reef formation through two wells located in Section 33, Township 17 South, Range 35 East, and Section 4, Township 18 South, Range 35 East, Vacuum-Abo Reef Pool, Lea County, New Mexico. Applicant further seeks the promulgation of special rules to govern operation of said pressure maintenance project.

CASE 3278 (Reopened)

In the matter of Case No. 3278 being reopened pursuant to the provisions of Order No. R-2944, which order established 80-acre spacing units for the Stateline-Ellenburger Pool, Lea County, New Mexico, for a period of eighteen months. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units.

CASE 3277 (Reopened)

In the matter of Case No. 3277 being reopened to consider the necessity for the continuance of the special allowables assigned to wells in the Stateline-Ellenburger Pool, Lea County, New Mexico.

- CASE 3510: Application of United States Smelting Refining and Mining Company for an unorthodox gas well location, Lea County, New Mexico. Applicant in the above-styled cause, seeks approval for its Federal Well No. 2 at an unorthodox location 760 feet from the South line and 2080 feet from the West line of Section 11, Township 20 South, Range 34 East, Lea-Pennsylvanian Gas Pool, Lea County, New Mexico.
- CASE 3511: Application of Thomas A. Dugan for an unorthodox gas well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Navajo Federal Well No. 1 completed in the Gallup formation at an unorthodox gas well location 660 feet from the North and West lines of Section 26, Township 28 North, Range 15 West, San Juan County, New Mexico, said well to be dedicated to the NW/4 of said Section 26.
- CASE 3512: Application of Pubco Petroleum Corporation for force-pooling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Basin-Dakota Gas Pool underlying the S/2 of Section 21, Township 26 North, Range 6 West, Rio Arriba County, New Mexico, and allocating well costs including a risk factor for a well to be drilled on said spacing unit.
- CASE 3513: Application of Midwest Oil Corporation for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Vada-Pennsylvanian Pool, Lea County, New Mexico, including a provision for 160-acre proration units.
- CASE 3514: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider suspending the scheduled cancellation of underproduction which accrued to certain wells in the Eumont Gas Pool during the first six months of 1966 and which was not made-up during the second six months period and was therefore subject to cancellation January 1, 1967. The underproduction being considered for suspension of cancellation accrued as a result of the sale of the connecting pipeline for said wells from an intra-state company to an inter-state company resulting in necessity for FPC approval of sales. The wells, which were shut-in and not produced during the period FPC approval was being obtained, are certain wells formerly connected to Southern Union Gas Company and owned by the following operators: Shell, He-Tex, Penrose, Tidewater, Fields, Atlantic, Skelly, Clark & Christie, Aztec, and Great Western Drilling.

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. 3507
Order No. R-3178

APPLICATION OF STANDARD OIL COMPANY
OF TEXAS FOR A WATERFLOOD EXPANSION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 4, 1967,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 18th day of January, 1967, 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, Standard Oil Company of Texas, seeks
permission to expand its Maljamar-Grayburg Waterflood Project in
its Maljamar-Grayburg Unit Area, Maljamar Pool, by the injection
of water into the Grayburg formation through thirteen additional
injection wells in Sections 2, 3, 4, 8, 9, 10, 11, 14, and 15,
Township 17 South, Range 32 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.

-2-

CASE No. 3507

Order No. R-3178

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

(5) That the proposed expansion of the Maljamar-Grayburg Waterflood Project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(6) That the subject application should be approved and the expanded 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, Standard Oil Company of Texas, is hereby authorized to expand its Maljamar-Grayburg Waterflood Project in its Maljamar-Grayburg Unit Area, Maljamar Pool, by the injection of water into the Grayburg formation through the following-described wells in Township 17 South, Range 32 East, NMPM, Lea County, New Mexico:

<u>Well</u>	<u>No.</u>	<u>Unit</u>	<u>Section</u>
Phillips Mexco State "A"	1	E	2
Standard Jackson Federal	1	A	3
Standard Atlantic Federal	2	H	4
Standard Mitchell Federal	1	P	8
Standard A. C. Taylor et al	1	J	9
Standard Iles Federal	11	N	9
Standard Iles Federal	37	F	9
Standard Iles Federal	39	L	9
Standard Iles "X" Federal	5	P	9
Standard Iles Federal	29	P	10
Standard A. C. Taylor "E"	2	L	11
Standard A. C. Taylor "C"	2	D	14
Standard Iles Federal	18	H	15

(2) That the expanded waterflood project shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

-3-

CASE No. 3507

Order No. R-3178

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve expansion of the Maljamar-Grayburg 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 expanded waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

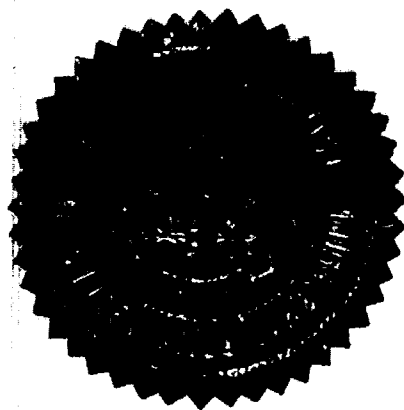
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


DAVID F. CARGO, Chairman


GUYTON B. HAYS, Member


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



esr/