

February 10, 1966

United States Geological Survey (2)
P. O. Drawer 6
Artesia, New Mexico

Attention: Mr. J. A. Knaut

Re: Pilot waterflood, Shugart Pool
Sections 34 and 35
T-18-S, R-31-E
Eddy County, New Mexico

Gentlemen:

We request the approval of the United States Geological Survey to carry out a pilot waterflood on portions of Sections 34 and 35, Shugart Pool, Township 18 South, Range 31 East, Eddy County, New Mexico. The project area consists of 720 ± acres, the leases are Federal, and the working interest is owned 100% by Atlantic. We plan to attempt to expand the pilot to include other leases under a unitized operation as quickly as possible.

The following exhibits are attached for your use:

- (1) Plat showing proposed project area, location of wells, zones of completion, ownership, and location of proposed injection wells for pilot.
- (2) Plat showing U.S.G.S. royalty scale.
- (3) Table of initial potential tests and current production rates of wells within the project area.
- (4) North-South and East-West cross sections.

The project area consists of 720 ± acres with five injection wells. The area is classified by the New Mexico Oil Conservation Commission as the Shugart Pool - Yates, Seven Rivers, Queen and Crayburg. Wells within the area produce from a number of zones from the Yates at approximately 2700' through the top of the Crayburg at approximately 4100'.

3/8/66. Talked by phone w/ Knaut. He advised that we could assume they will approve the project.

BEFORE THE OIL CONSERVATION COMMISSION Santa Fe, New Mexico EXHIBIT No. 2 Case No. 222
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The nineteen wells within the pilot project area have produced 1,088,850 barrels of oil to December 1, 1965. The discovery well, Atlantic's Hinkle "A" No. 1 was completed on May 9, 1938. Several wells were completed in the mid 1940's but the majority of the development took place in 1957, 1958 and 1959. Production from all nineteen wells within the pilot project area during November, 1965 was 3,399 barrels of oil or an average of about 6 bbl/d per well.

Our final unitized plan will be to waterflood most of the zones within the Shuart Pool interval. However, for this proposed pilot, we plan to flood only the Yates and the upper portion of the Queen. Injection into the five wells will be within an interval from 2,694' to 2,894' for the Yates and 3,320' to 3,446' for the upper Queen as correlated from the log of Atlantic's Hinkle "A" No. 3 which is shown on one of the cross sections. The Hinkle "A" No. 3 will be a dual with the Yates injection through the casing-tubing annulus and the upper Queen injection through the tubing below a packer. The other four injection wells will be two string tubing duals.

We have contacted Cities Service concerning their 80-acre Hinkle "A" lease (1/2 Sec 34) which offsets one of our proposed injection wells, the Hinkle "A" No. 3. They have advised us that they have no objection to our plan and will send us a letter waiving any objections.

Fresh water for injection will initially be purchased from the Double Eagle Corporation. Injection will be about 200 barrels of water per day per zone or 400 barrels per day per well for each of the five proposed injection wells.

We will be happy to furnish you with any further information you may need.

Yours very truly,

K. I. Trimble

BIT:jcb

Attachments

cc: Mr. S. L. Smith
Mr. Jack Biard
Mr. A. D. Kloxin
Mr. W. P. Tomlinson



IN REPLY REFER TO:

RET

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Drawer U
Artesia, New Mexico 88210

March 10, 1966

The Atlantic Refining Company
Post Office Box 1978
Roswell, New Mexico

Re: Shugart Pilot Waterflood
LC 029392(a) and (b)

Gentlemen:

Your letter of February 10, 1966, requests approval to institute a waterflood of the Yates and Upper Queen formations on those portions of the subject leases insofar as they cover the following lands:

T. 18 S., R. 31 E., Eddy County, New Mexico

Sec. 34: $N\frac{1}{2}$, $N\frac{1}{2}S\frac{1}{2}$, $SE\frac{1}{4}SW\frac{1}{4}$
Sec. 35: All

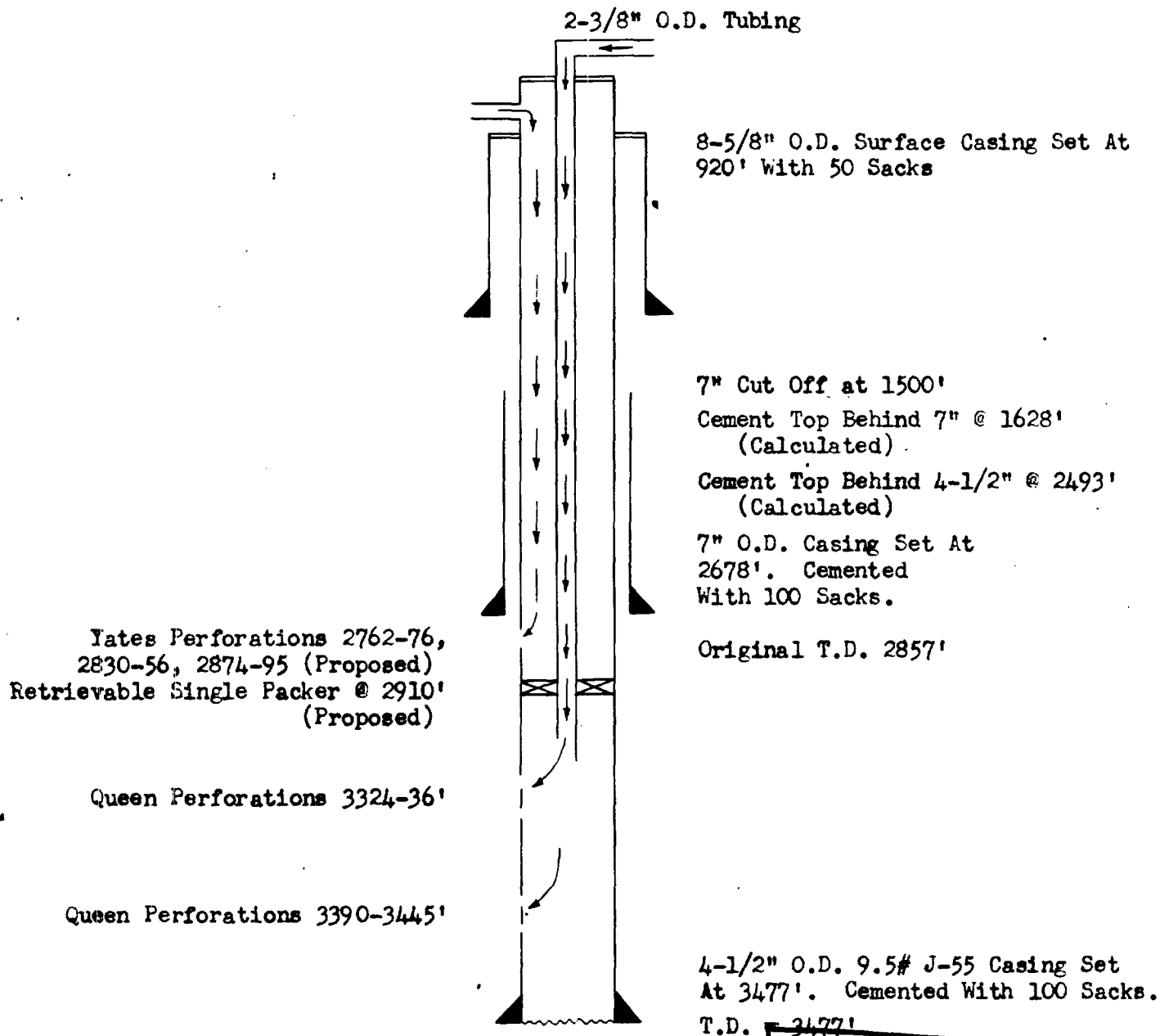
Your proposed plan for operating the above described pilot waterflood project is satisfactory to this office and hereby approved, subject to approval by the New Mexico Oil Conservation Commission and the following:

1. This project will be operated in compliance with the New Mexico Oil Conservation Commission regulations governing waterflood operations.
2. Duplicate copies of a monthly progress report are to be submitted showing the volume of water injected and average pressure for each injection well and monthly oil and water production for the producing wells in the project area.
3. This approval does not preclude the necessity for further approval when the project is expanded to include other wells and leases, or the necessity to submit the usual notices and reports on wells involved. When this project is expanded to involve other operators and interests, the correlative rights of all concerned should be protected.

Sincerely yours,

James A. Knapp
District Engineer

BEFORE THE OIL CONSERVATION COMMISSION State of New Mexico
Exhibit No. <u>344</u>
Case No. <u>344</u>
EXHIBIT No 3



THE ATLANTIC REFINING COMPANY
Schematic Drawing
Hinkle "A" No. 3 Well
Shugart Pool
Eddy County, New Mexico

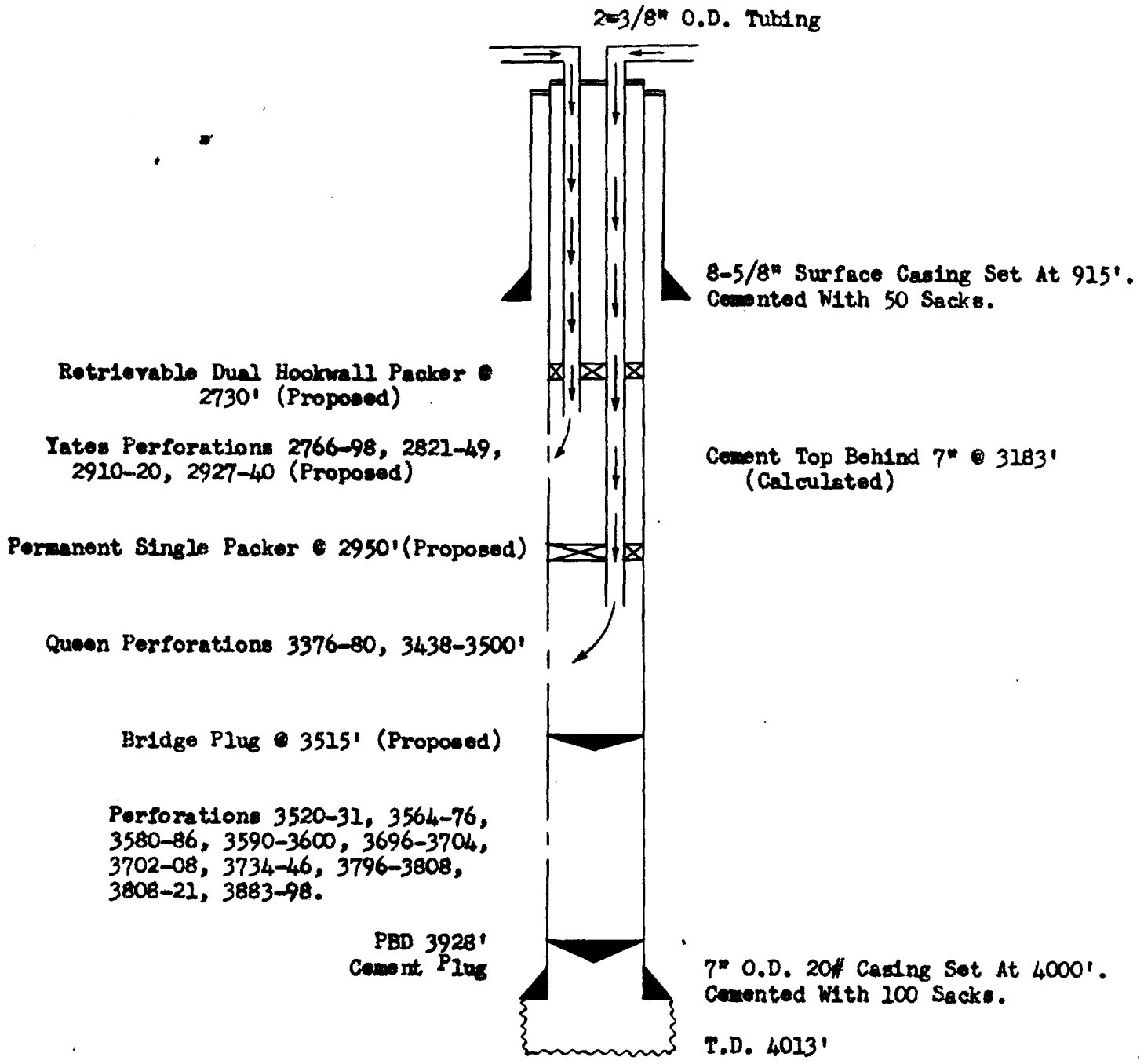
BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Exhibit No. 4

Case No. 3391

EXHIBIT NO. 4

48

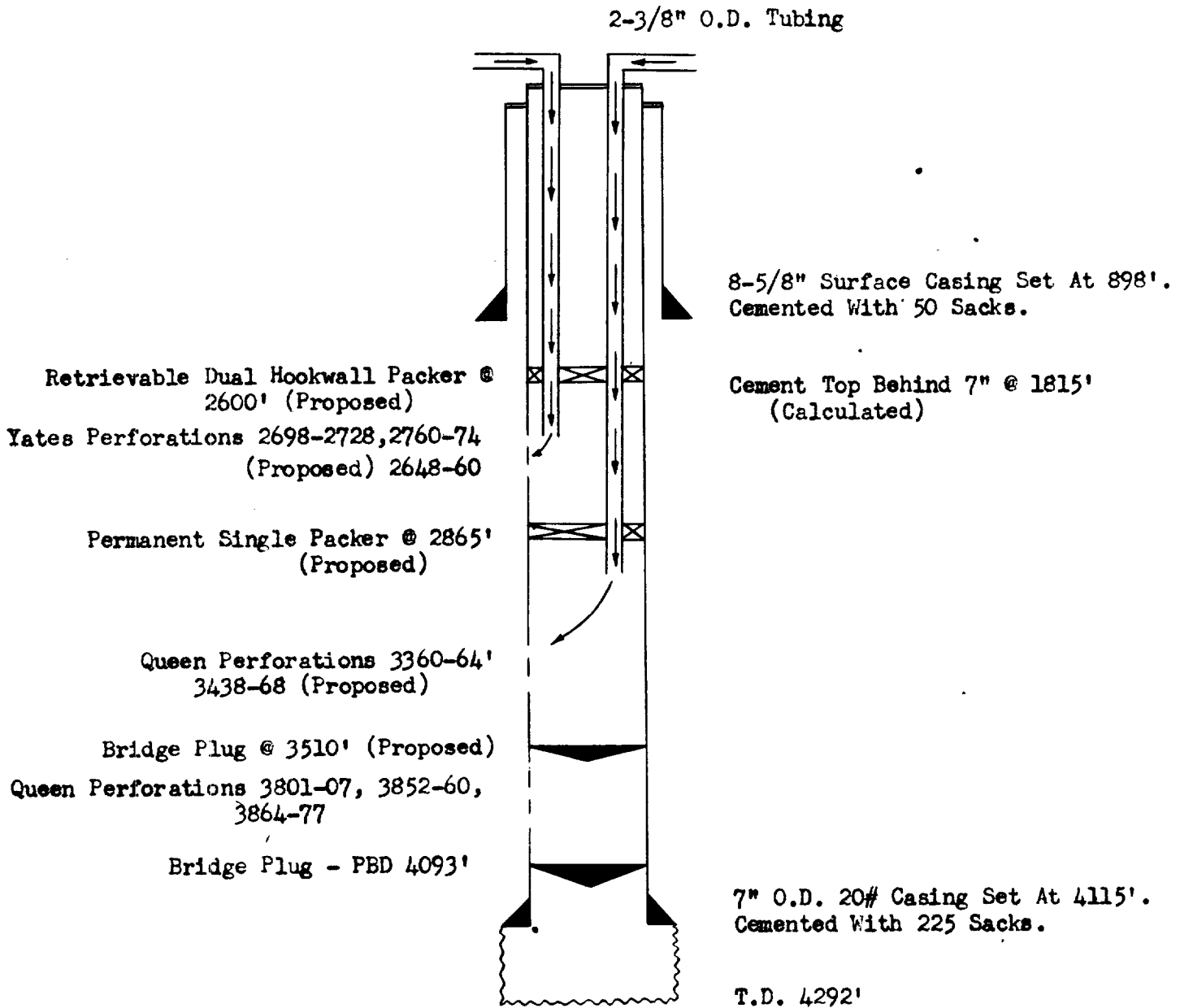


THE ATLANTIC REFINING COMPANY

Schematic Drawing
Hinkle "A" No. 8 Well
Shugart Pool
Eddy County, New Mexico

THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Exhibit No. 5
EXHIBIT NO. 5
Case No. _____

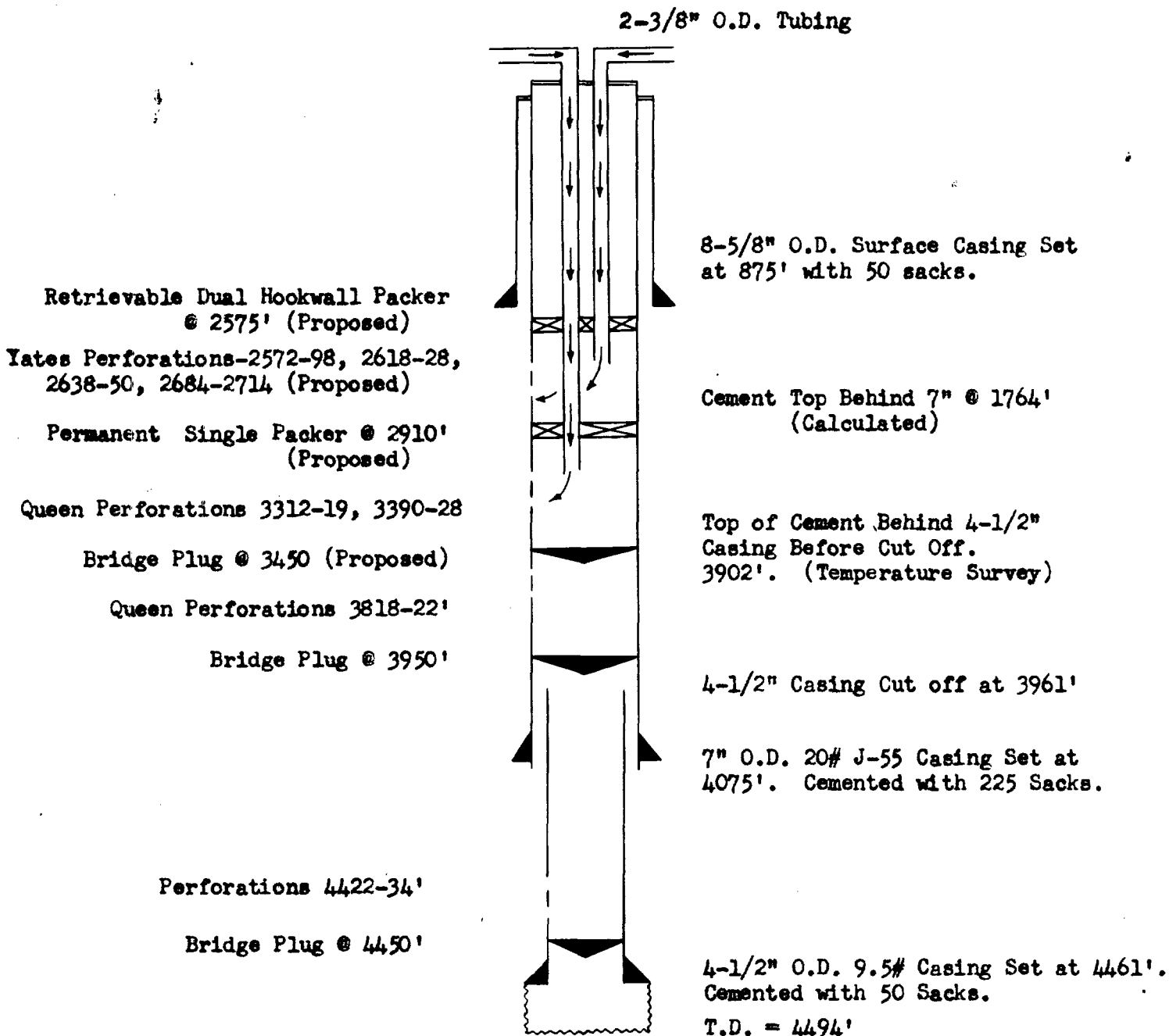


THE ATLANTIC REFINING COMPANY

Schematic Drawing
Hinkle "A" No. 12 Well
Shugart Pool
Eddy County, New Mexico

OIL CONSERVATION COMMISSION
S. H. Te, New Mexico

Exhibit No. 6
EXHIBIT NO. 6
Case No. 6



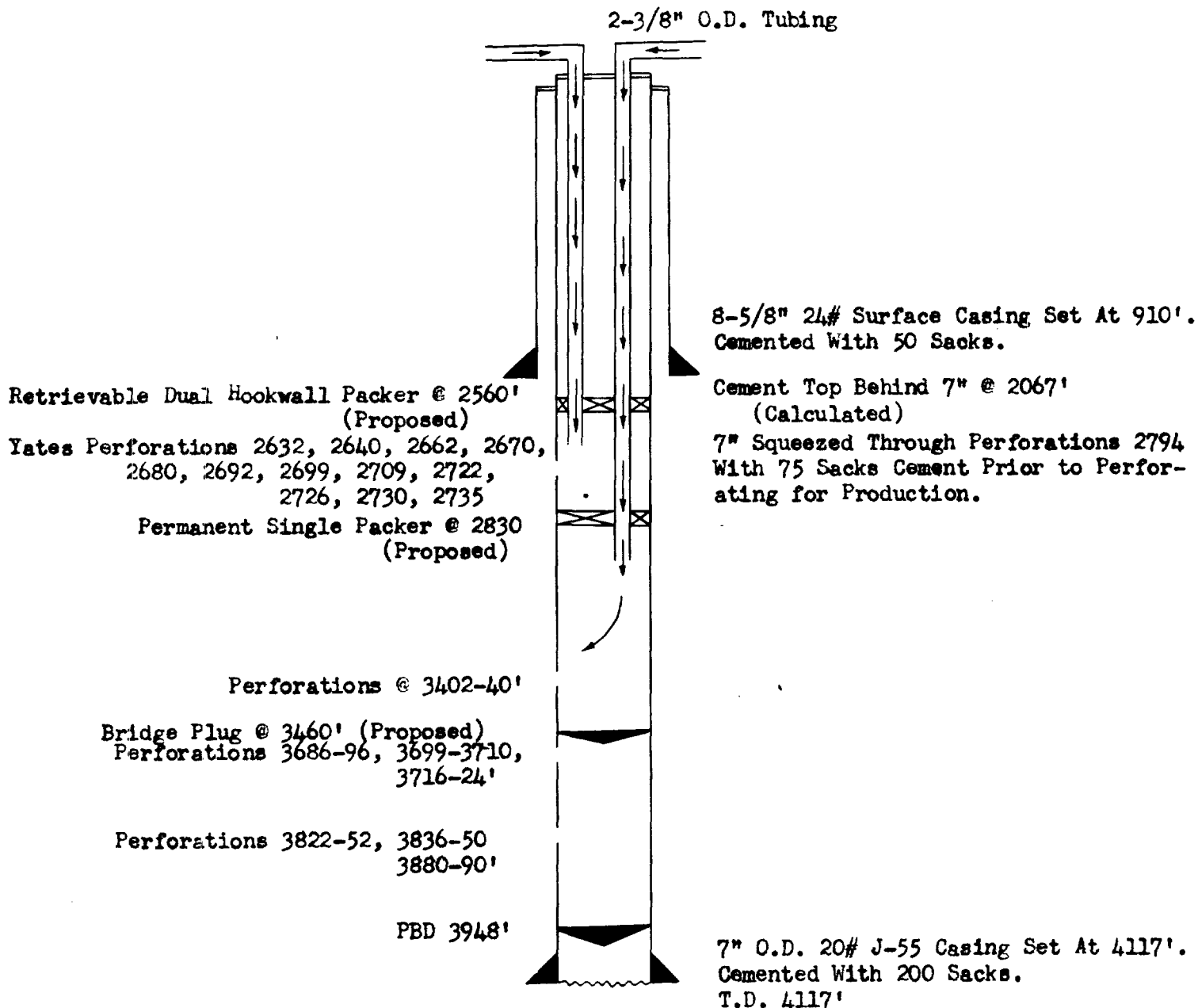
THE ATLANTIC REFINING COMPANY

Schematic Drawing
Hinkle "B" No. 5 Well
Shugart Pool
Eddy County, New Mexico

COMMISSION
Santa Fe, New Mexico

Exhibit No. 7

Case NO. EXHIBIT NO. 7



THE ATLANTIC REFINING COMPANY

Schematic Drawing
Hinkle "A" No. 13 Well
Shugart Pool
Eddy County, New Mexico

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

EXHIBIT NO. 8

Case No. 22



THE ATLANTIC REFINING COMPANY

INCORPORATED - 1870

PETROLEUM PRODUCTS

February 10, 1966

NORTH AMERICAN PRODUCING DEPARTMENT
NEW MEXICO - ARIZONA DISTRICT

S. L. SMITH, DISTRICT MANAGER
JACK BIARD, DISTRICT LANDMAN
E. R. DOUGLAS, DISTRICT GEOLOGIST
A. D. KLOXIN, DISTRICT DRG. & PROD. SUP'T.
M. D. ROBERTS, DISTRICT GEOPHYSICIST
W. P. TOMLINSON, DISTRICT ENGINEER
B. R. WARE, DISTRICT ADMINISTRATIVE SUP'V.

SECURITY NATIONAL BANK BLDG.

MAILING ADDRESS
P. O. BOX 1978
ROSWELL, NEW MEXICO

Cities Service Oil Company (3)
P. O. Box 69
Hobbs, New Mexico

Attention: Mr. Ray Ely

Re: Shugart Pilot Waterflood
Sections 34 and 35
T-18-S, R-31-E
Eddy County, New Mexico

Gentlemen:

We are planning a pilot waterflood on some properties we recently acquired in the Shugart Pool, Township 18 South, Range 31 East, Eddy County, New Mexico. Injection will be into the Yates and upper Queen zones during the pilot operation. One of our proposed injection wells is the Atlantic - Hinkle "A" No. 3 located 330 feet from the east line and 1650 feet from the south line of Section 34. This well offsets the 80 ± acre Cities Service - Hinkle "A" lease being the S/2 of the SE/4 of Section 34. If Cities Service has no objection to the conversion of Atlantic's Hinkle "A" No. 3 to an injection well, we would appreciate it if you would execute and return one copy of this letter.

Under the terms of the purchases we have made, we are required to be water-flooding by certain dates, the earliest being June 1, 1966. Since it will be impossible to unitize by such an early date, we feel that our only alternative is to begin a pilot injection program. However, as soon as possible, we plan to begin negotiations to unitize all productive intervals and include, among other leases, the Cities Service Hinkle "A" lease.

Atlantic's Hinkle "A" No. 3 will be a dual injector with about 200 barrels of water per day injected into the Yates within an interval from 2694 feet to 2894 feet and about 200 barrels of water per day injected into the upper Queen within an interval from 3320 feet to 3446 feet. The water injected will be fresh water purchased from the Double Eagle Corporation.

RLT:job

Concur - Cities Service Oil Company

BY J. E. [Signature]

Yours very truly, CONSERVATION COMMISSION

R. L. Trimble Santa Fe, New Mexico

R. L. Trimble

Exhibit No. 11

Case No. 334

EXHIBIT No. 11