DUAL ZONE INSTALLATIONS BY STATES

State	1957	1958*
Alabama	1	0
Kansas	4	3
Louisiana	3	0
Mississippi	3	2
Oklahoma	27	14
Texas	110	137

* Includes installations January through September

These installations consist of crossover equipment with two pumps being operated simultaneously on a single rod string by one pumping unit or crossover equipment is installed in preparation for use of dual zone pumps when the zones cease to flow.

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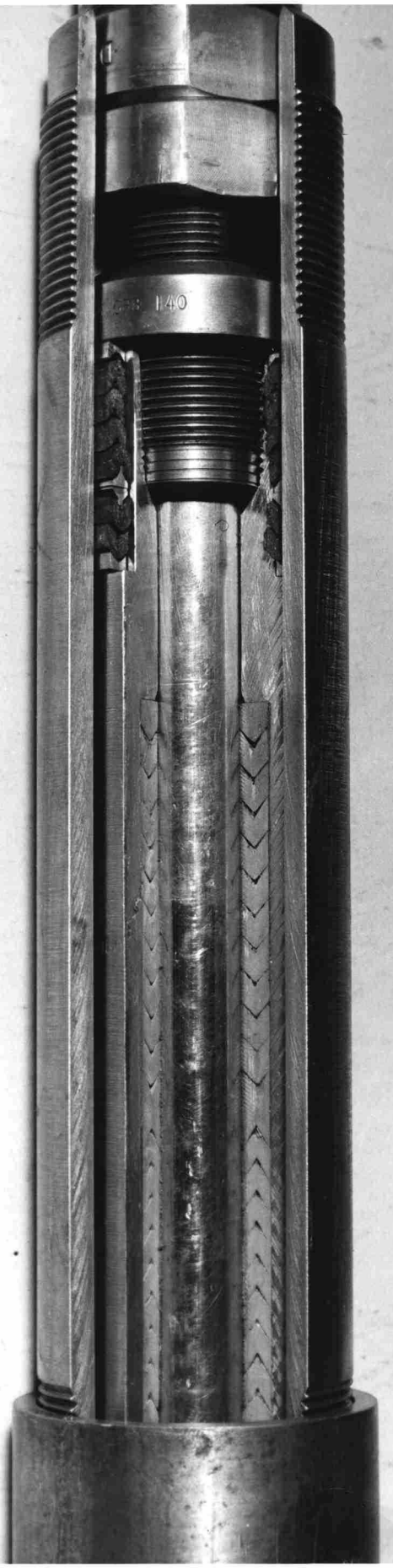


CLOSE UP OF CUTAWAY SHOWING PACKING IN PLACE ON CONTINENTAL EMSCO'S DUAL PUMP LOWER PACKOFF & SEAL ASSEMBLY.

CUTAWAY OF LOWER PACKOFF AND BORE ASSEMBLY WITH LATCHING AND HOLDDOWN DEVICE AND STANDING VALVE.

CONTINENTAL EMSCO CO.

9

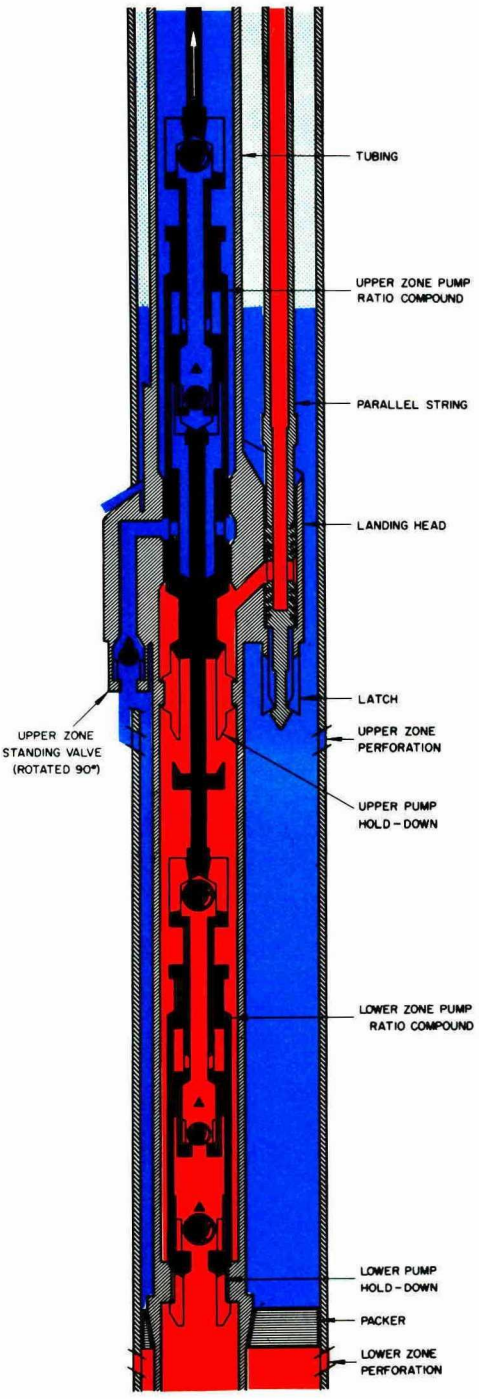
4

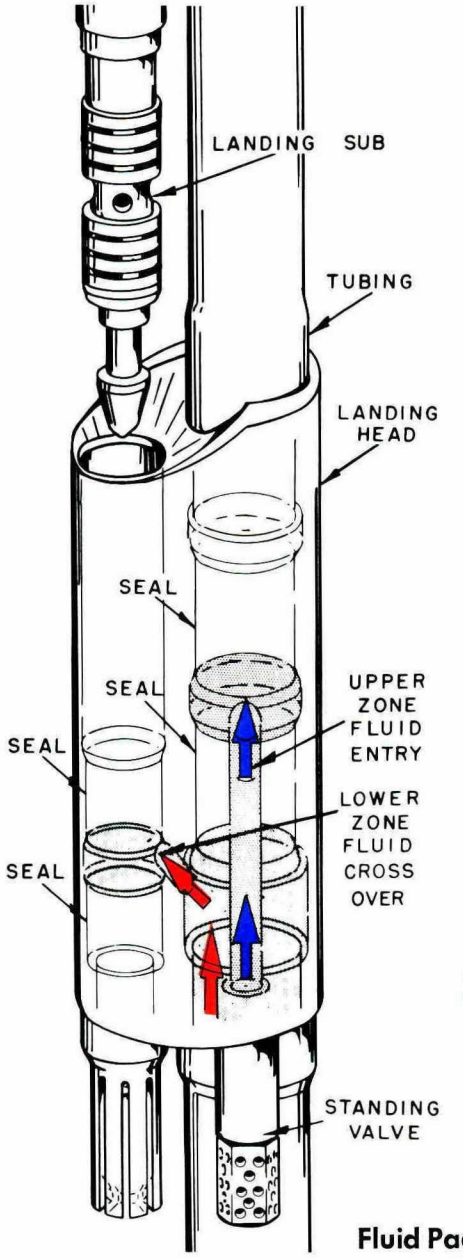
McCLINTOCK'S
COMMERCIAL PHOTOGRAPHY
3913 W. Wall—Tel. Mu 2-1270
MIDLAND, TEXAS

This sheet supplements Page DZ-6, Bulletin 5702.

Typical Dual Zone Installation

WITH RATIO-COMPOUND PUMPS





Fluid Packed Pump Co.

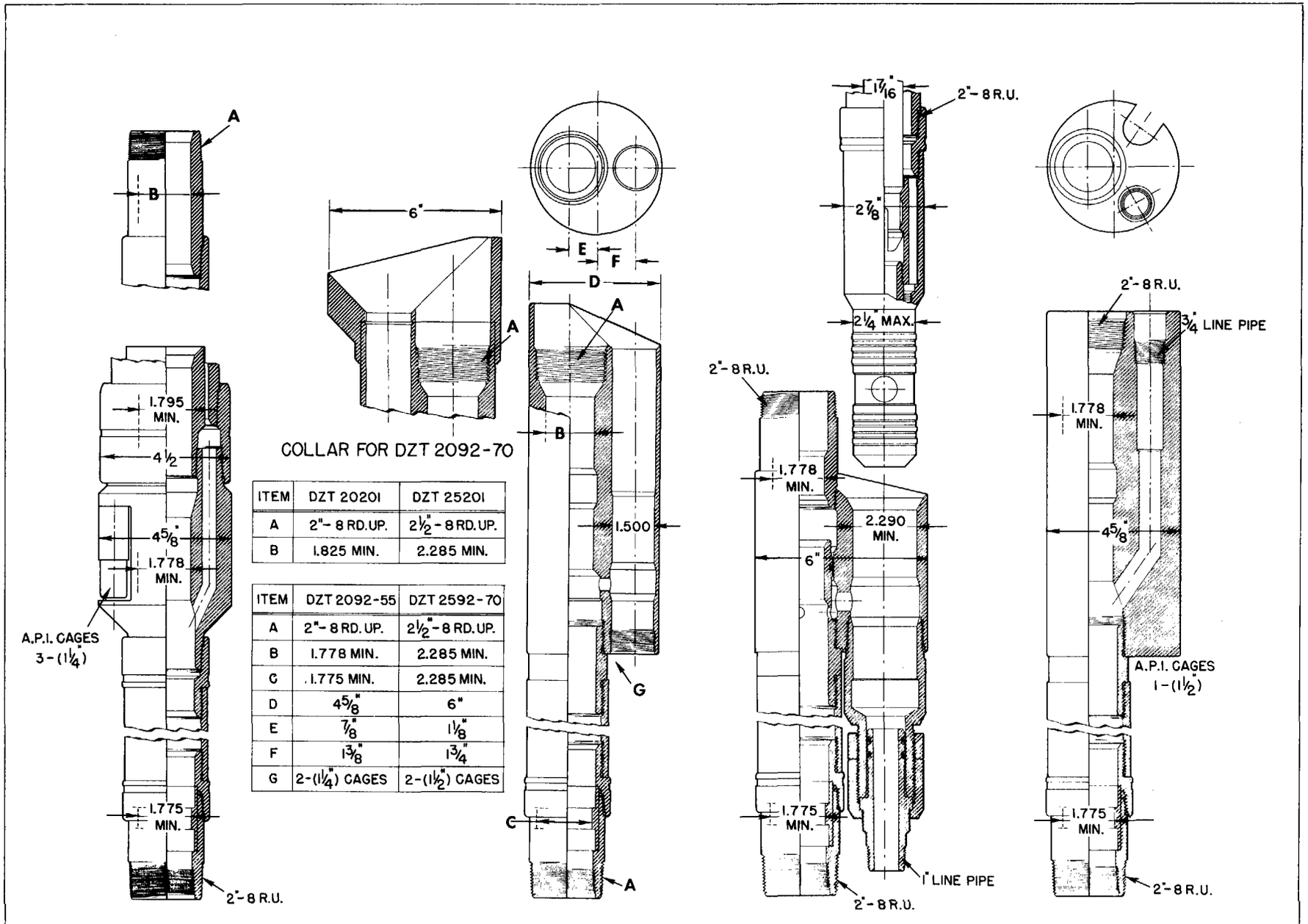
In the installation illustrated, a packer separates the perforated intervals of the upper and lower zone. Both upper and lower zone pumps are positioned in the long string of tubing, and are run in, operated, and pulled with a single string of rods. The long string conducts the upper zone production while a second string of tubing conducts the lower zone production to the surface. No gas is vented from the lower zone, but gas from the upper zone is vented up the casing. The two tubing strings are run independently. The crossover shoe with integral landing head is run in on the long string. A landing spear is run on the bottom of the short string. This spear is automatically guided into place by the landing head and the seal elements are properly positioned by a no-go ring and latch.

In the illustration, a Ratio-Compound Pump is shown in both the upper and lower zone. A Ratio-Compound has the following advantages over a conventional pump in Dual Zone installations. In the lower zone where gas is not vented, it will reduce gas lock and improve pump efficiency. In the upper zone it will improve pump efficiency and will permit the upper pump to continue to produce even if a standing valve should fail. In both zones it will eliminate fluid pound and in gassy wells will maintain a tension in the rod string on the down stroke. Ratio-Compound pumps are available for all types of Dual Zone installations and may be run as an option without modification of the tubing assembly.

FIG. 3a

SINGLE PACKER DOUBLE STRING
Installation Typical of
DZT2092-55 DZT2092-70
DZT2592-70

with
Ratio-Compound Pumps



ITEM	DZT 20201	DZT 25201
A	2"-8 RD.UP.	2 1/2"-8 RD.UP.
B	1.825 MIN.	2.285 MIN.

ITEM	DZT 2092-55	DZT 2592-70
A	2"-8 RD.UP.	2 1/2"-8 RD.UP.
B	1.778 MIN.	2.285 MIN.
C	1.775 MIN.	2.285 MIN.
D	4 5/8"	6"
E	7/8"	1 1/8"
F	1 3/8"	1 3/4"
G	2-(1 1/4") CAGES	2-(1 1/2") CAGES

Fig. 3b - Crossover Shoe Dimension Sheet

ECONOMICS OF TWO ZONE PUMP VERSUS TWO PUMPS WITH INDIVIDUAL PUMPING UNITS

	Two Pumping Units	Two Zone Pump
Pumping Unit 228D	$15,206	$ 7,653
25 H.P. Gas Engine	6,100	3,050
Pumping Unit Base	1,200	700
Tubing - Upper Zone 5100'	3,417	3,417
Tubing - Lower Zone 5700'	3,819	3,819
Rods - Upper Zone 5100'	3,060	
Rods - Lower Zone 5700'	3,420	3,420
Pumps - $1\frac{1}{2}$" x 16'	900	900
Labor to run rods and tubing	536	472
Dual Head	811	977
Polish Rod - Clamps	304	152
Cross Over Assembly		780
Packer - Stinger	1,291	1,291
Vent Tube	80	80
Totals	$40,244	$26,711

Savings by using two zone pump - $13,533

#3 Cities Service

LIFT COST COMPARISON DUALS VERSUS SINGLES

	No. Wells In Group	Depth Wells	Age Wells	Avg. Mo. Bbls. Fluid	Avg. Mo. Gross Oil	Avg. Mo. Expenses	Lift Cost/ Bbl. Fluid	Lift Cost/ Bbl. Oil
Group I	9	4200 to 6200	6-19 months	15,767	14,243	$ 627.00	4.0	4.4
Group II *	7	4200 to 6200	6-19 months	13,009	9,975	821.00	6.3	8.2
Group III	9	4200 to 4800	17-148 months	8,429	7,899	956.00	11.4	12.2

Group I — Both zones flowing - equipped for dual zone pumps

Group II — Both zones pumping with dual zone equipment

Group III — Single zone pumping

* Dual Pump

Attic - Service #4

LOWELL STOUT
LAWYER
218 WEST LEA
HOBBS, NEW MEXICO
EXPRESS 3-2211

February 12, 1964

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

Attention: Mr. Dan Nutter

Dear Mr. Nutter:

I am returning herewith the transcript of hearing in case No. 1557 which was loaned to Mr. Joe Buck and I. I want to thank you for the courtesy and consideration you showed to Mr. Buck and I when we were in Santa Fe January 20.

Sincerely,

LOWELL STOUT

S/ls
Encl.

the establishment of a 63-acre non-standard oil proration unit consisting of Lots 1, 2, 3, and 4 of Section 19, said unit to be dedicated to a well to be drilled on an unorthodox location 660 feet from the North line and 256 feet from the West line of said Section 19, all in the Bisti-Lower Gallup Oil Pool, Township 26 North, Range 13 West, San Juan County, New Mexico.

CASE 1556: Application of Chaco Oil Company for an exception to Rule 104 of the Commission Rules and Regulations. Applicant, in the above-styled cause, seeks an order authorizing it to drill four additional oil wells in the Red Mountain-Mesaverde Oil Pool in the SW/4 SE/4 of Section 20 and the NW/4 NE/4 of Section 29, Township 20 North, Range 9 West, McKinley County, New Mexico.

CASE 1557: Application of Cities Service Oil Company for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing it to dually complete its State "P" No. 3 Well located 990 feet from the South and West lines of Section 32, Township 22 South, Range 38 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Blinebry Oil Pool and from an undesignated Glorieta oil pool through parallel strings of tubing.

ig/

Case 1227

MAIN OFFICE OCC

OCT

CITIES SERVICE OIL COMPANY

BOX 97

HOBBS, NEW MEXICO

October 28, 1958

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

Attn: Mr. A. L. Porter, Jr.

Re: Application to Dual Complete
Cities Service Oil Company
State "P" No. 3

Gentlemen:

It is respectfully requested that the Oil Conservation Commission schedule a hearing at the earliest possible date to consider this application to dually complete the State "P" No. 3, located 990' FSL, 990' FWL, Section 32-22S-38E, Lea County, New Mexico. The attached plat shows the location of the well on the Cities Service Oil Company State "P" lease, together with the location of all offset wells.

Cities Service proposes to dually complete the State "P" No. 3 in the following manner.

1. Equip the well as shown on the attached schematic diagram.
2. Produce oil from the Blinebry formation through 2" tubing.
3. Produce oil from the Glorietta formation through 2" tubing.

A copy of this application with schematic diagram and plat included has been sent to each of the offset operators named on the attached list.

Very truly yours,

E. F. Motter
Asst. Division Engineer

EFM/gk
Attachs.

Anderson-Pritchard Oil Corporation
P. O. Box 196
Midland, Texas
Attn: Mr. L. H. Foster

Gulf Oil Corporation
P. O. Drawer 669
Roswell, New Mexico
Attn: Mr. M. I. Taylor

N. M. Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico
Attn: Mr. A. L. Porter, Jr.

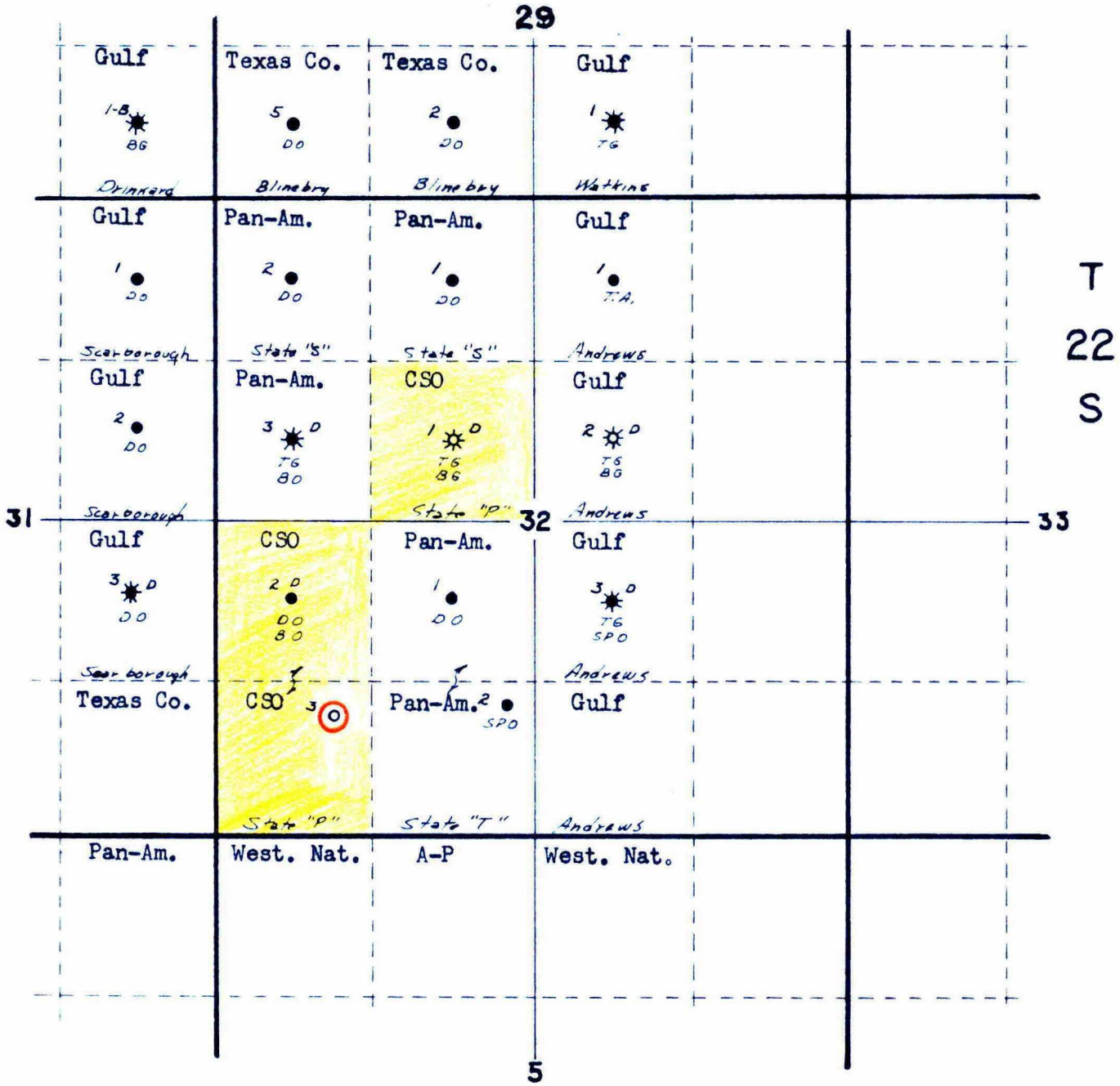
N. M. Oil Conservation Commission
P. O. Box 2045
Hobbs, New Mexico
Attn: Mr. Randall Montgomery

Pan American Petroleum Corporation
P. O. Box 899
Roswell, New Mexico
Attn: Mr. C. L. Kelley

The Texas Company
P. O. Box 1270
Midland, Texas
Attn: Mr. T. P. Drew

Western Natural Gas Company
823 Midland Tower Building
Midland, Texas
Attn: Mr. R. H. McKoy

R 38 E



LEGEND

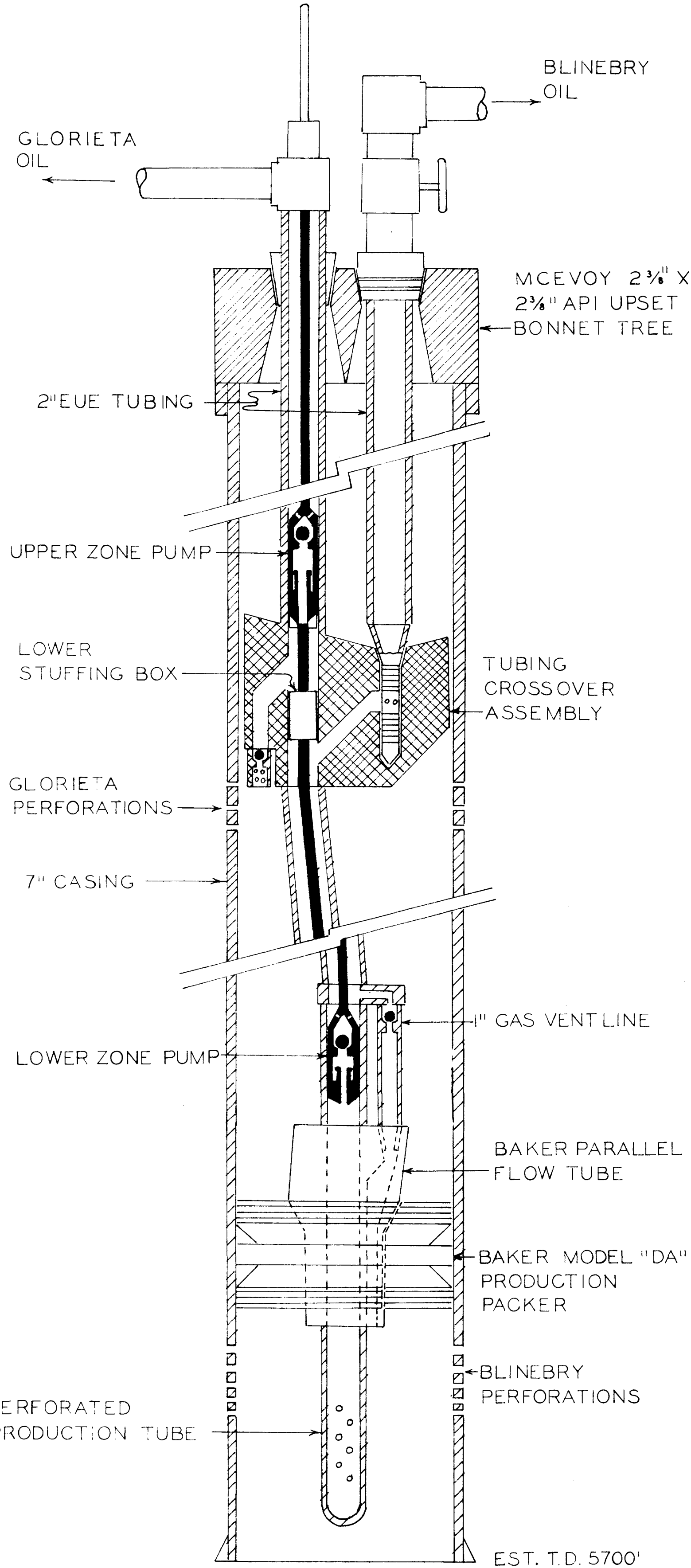
- BO Blinebry Oil
- BS Blinebry Gas
- DO Drinkard Oil
- TG Tubb Gas
- SPO South Paddock Oil

C. S. O. STATE "P" AREA

LEA COUNTY, N. M.

CITIES SERVICE OIL COMPANY

PARALLEL TUBING STRING
INSTALLATION - DUAL COMPLETED WELL



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Cities Service #7

CUTAWAY OF LOWER PACKOFF AND SEAL ASSEMBLY WITH LATCHING AND HOLDDOWN DEVICE AND STANDING VALVE

CONTINENTAL EMSCO. CO.

CITIES SERVICE OIL COMPANY

BOX 97
HOBBS, NEW MEXICO

file dual zone pump case (no 1557)

Exhibit # 10

February 2, 1959

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

Attn: Mr. A. L. Porter, Jr.

Gentlemen:

Attached are photostats of "Dual-Zone Pumping with Two Pumps Actuated by One Rod String" by W. W. Whitaker and H. P. Lieb, Gulf Oil Corporation. These were requested by Mr. Dan Nutter for the record in Case No. 1557.

Very truly yours,

E. F. Motter
Assistant Division Engineer

EFM/gk
Attachs.