**DUAL ZONE INSTALLATIONS BY STATES**

<table>
<thead>
<tr>
<th>State</th>
<th>1957</th>
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<tr>
<td>Alabama</td>
<td>1</td>
<td>0</td>
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<tr>
<td>Kansas</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Louisiana</td>
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<td>0</td>
</tr>
<tr>
<td>Mississippi</td>
<td>3</td>
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</tr>
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*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.

Prior to January, 1957, approximately 500 dual zone pumps were installed in the United States. In addition, dual zone pumps are operating in Canada, Columbia, Venezuela and Germany.
CLOSE UP OF CUTAWAY SHOWING PACKING IN PLACE ON CONTINENTAL EMSCO'S DUAL PUMP LOWER PACKOFF & SEAL ASSEMBLY.
McCLINTOCK'S
COMMERCIAL PHOTOGRAPHY
3913 W. Wall—Tel. Mu 2-1270
MIDLAND, TEXAS
CUTAWAY OF LOWER PACKOFF AND SEAL ASSEMBLY WITH CATCHING AND HOLD-DOWN DEVICE AND STANDING VALVE.

CONTINENTAL EMSCO 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.
ECONOMICS OF TWO ZONE PUMP VERSUS TWO PUMPS WITH INDIVIDUAL PUMPING UNITS

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

Savings by using two zone pump - $13,533
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.
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 32-229-38E, 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 Glorieta 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. Hotter
Asst. Division Engineer

[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

#### 29

<table>
<thead>
<tr>
<th>Gulf</th>
<th>Texas Co.</th>
<th>Texas Co.</th>
<th>Gulf</th>
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<tr>
<td>17</td>
<td>30</td>
<td>26</td>
<td>17</td>
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- **Legend**
  - **BO**: Blinebry Oil
  - **BS**: Blinebry Gas
  - **DO**: Drinkard Oil
  - **TS**: Tubb Gas
  - **SPO**: South Paddock Oil
  - **C.S.O. STATE "P" AREA LEA COUNTY, N.M.**

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**Pan-Am.** | **West. Nat.** | **A-P** | **West. Nat.**
CITIES SERVICE OIL COMPANY
PARALLEL TUBING STRING
INSTALLATION - DUAL COMPLETED WELL

GLORIETA OIL

MCEVOY 2¾" X 2¾" API UPSET
BONNET TREE

2½"UE TUBING

UPPER ZONE PUMP

LOWER STUFFING BOX

GLORIETA PERFORATIONS

7" CASING

LOWER ZONE PUMP

4" GAS VENT LINE

BAKER PARALLEL FLOW TUBE

BAKER MODEL "DA" PRODUCTION PACKER

BLINEBRY PERFORATIONS

EST. T.D. 5700'
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CUTAWAY OF LOWER PACKOFF AND SEAL ASSEMBLY
WITH LATCHING AND HOLDOWN DEVICE AND STANDING VALVE

CONTINENTAL EPSCO, CO.
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

EPM/gk
Attachs.