CASE 2078: Application of CHAMBERS & KENNEDY for an OIL-OIL DUAL OF ITS MONTEREY STATE WELL NO. 2 - Unit D.

OK

in this particular instance 1½" tbg is OK

Case No.

2078

Application, Transcript,

mall Exhibits, Etc.

GOVERNOR

JOHN BURROUGHS
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
MURRAY E. MORGAN
MEMBER

P. O. BOX 871
SANTA FE

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

Mr. Thomas McKenna
302 East Palace Avenue
Santa Fe, New Mexico

Re: Case No. 3078
Order No. R-1784
Applicant:
Chambers & Kennedy

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

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

ir/

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

Other

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. 2078
Order No. R-1784

APPLICATION OF CHAMBERS & KENNEDY
FOR AN OIL-OIL DUAL COMPLETION IN
AN UNDESIGNATED YATES POOL AND IN
THE NORTH SHUGART QUEEN-GRAYBURG
POOL, EDDY COUNTY, NEW MEXICO,
UTILIZING PARALLEL STRINGS OF
SMALL DIAMETER TUBING.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on September 21, 1960, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 3rd day of October, 1960, the Commission, a quorum being present, having considered the application, the evidence addused, and the recommendations of the Examiner, Daniel S. Nutter, 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 is the owner and operator of the Monterey State Well No. 2, located in Unit D, Section 32, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico.

(3) That the applicant proposes to dually complete the above-described Monterey State Well No. 2 in such a manner as to permit the production of oil from an undesignated Yates pool and the production of oil from the North Shugart Queen-Grayburg Pool through parallel strings of 1 1/2-inch and 2 3/8-inch tubing, respectively, installed within a string of 5 1/2-inch casing set at total depth.

(4) That the applicant proposes to install a by-pass packer in order to adequately separate the producing zones.

(5) That inasmuch as the use of 1 1/2-inch tubing is practicable in this particular installation, the mechanics of

the proposed dual completion are feasible and in accord with good conservation practices.

(6) That approval of the subject application will neither cause waste nor impair correlative rights.

IT IS THEREFORE ORDERED:

That the applicant, Chambers & Kennedy, be and the same is hereby authorized to dually complete its Monterey State Well No. 2, located in Unit D, Section 32, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico, in such a manner as to permit the production of oil from an undesignated Yates pool and the production of oil from the North Shugart Queen-Grayburg Pool through parallel strings of 1 1/2-inch and 2 3/8-inch tubing, respectively, installed within a string of 5 1/2-inch casing set at total depth.

PROVIDED HOWEVER, That the applicant shall complete, operate, and produce said well in accordance with the provisions of Section V, Rule 112-A.

PROVIDED FURTHER, That the applicant shall take packer-leakage tests upon completion and annually thereafter or as directed by the Secretary-Director of the Commission.

IT IS FURTHER ORDERED:

That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or the protection of correlative rights; upon failure of the applicant to comply with any requirement of this order, the Commission may terminate the authority herein granted and require the applicant or its successors and assigns to limit its activities to regular single-zone production in the interest of conservation.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

esr/

DOCKET: EXAMINER HEARING, WEDNESDAY, SEPTEMBER 21, 1960

The following cases will be heard before Daniel S. Nutter, Examiner, or Oliver E. Payne, Attorney, as Alternate Examiner:

* Case Nos. 2083 through 2089 will not be heard before 1 p.m.

CASE 2055: (Continued)

Application of Aztec Oil & Gas Company for a gas-gas dual completion utilizing two strings of casing. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Hanks Well No. 12-D, located in Unit H, Section 7, Township 27 North, Range 9 West, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Fulcher Kutz-Pictured Cliffs Pool and the production of gas from the Dakota Producing Interval through parallel strings of 2 7/8-inch and 4½-inch casing cemented in a common well bore. Applicant proposes to install 2 3/8-inch tubing to produce the Dakota gas.

NEW CASES

CASE 2073: Application of Aztec Oil & Gas Company for a gas-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Hanks Well No. 18-D, located in Unit B, Section 5, Township 27 North, Range 9 West, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Fulcher Kutz-Pictured Cliffs Pool and the production of gas from the Dakota Producing Interval through parallel strings of 2 7/8-inch and 4½-inch casing cemented in a common well bore. Applicant also proposes to install 2 3/8-inch tubing to produce the Dakota gas.

CASE 2074: Application of Aztec Oil & Gas Company for a gas-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Hanks Well No. 16-D, located in Unit K, Section 6, Township 27 North, Range 9 West, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Fulcher Kutz-Pictured Cliffs Pool and the production of gas from the Dakota Producing Interval through parallel strings of 2 7/8-inch and 4½-inch casing cemented in a common well bore. Applicant also proposes to install 2 3/8-inch tubing to produce the Dakota gas.

CASE 2075: Application of Aztec Oil & Gas Company for a gas-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Hanks Well No. 15-D, located in Unit B, Section 6, Township 27 North, Range 9 West, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Fulcher Kutz-Pictured Cliffs Pool and the production of gas from the Dakota Producing Interval through parallel strings of 2 7/8-inch and 4½-inch casing cemented in a common well bore. Applicant also proposes to install 2 3/8-inch tubing to produce the Dakota gas.

CASE 2076: Application of Aztec Oil & Gas Company for a gas-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Hare Well No. 15-D located in Unit D, Section 10, Township 29 North, Range 10 West, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Aztec-Pictured Cliffs Pool and the production of gas from the Dakota Producing Interval through parallel strings of 2 7/8-inch and 4½-inch cemented in a common well bore. Applicant also proposes to install 2 3/8-inch tubing to produce the Dakota gas.

CASE 2077: Application of El Paso Natural Gas Company and Sinclair Oil & Gas Company for two non-standard gas proration units. Applicants, in the above-styled cause, seek an order establishing two 191-acre non-standard gas proration units in the South Blanco-Pictured Cliffs Gas Pool, Rio Arriba County, New Mexico, one comprising the NE/4 and lots 1 and 2 of Section 18, the other comprising the SE/4 and lots 3 and 4 of said Section 18, both in Township 24 North, Range 3 West. Said units are to be dedicated respectively to the Tonkin Federal Well No. 3, located 1470 feet from the North line and 1750 feet from the East line of said Section 18 and to the Tonkin Federal Well No. 4, located 1500 feet from the South line and 990 feet from the East line of said Section 18.

CASE 2078: Application of Chambers & Kennedy for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Monterey State Well No.2, Unit D, Section 32, Township 18 South, Range 31 East, Eddy County, New Mexico, in such a manner as to permit the production of oil from an undesignated Yates oil pool and the production of oil from the North Shugard Queen-Grayburg Pool through parallel strings of 1½-inch and 2 3/8-inch tubing respectively.

CASE 2079: Application of Socony Mobil Oil Company for a "slim-hole" oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its E. O. Carson Well No. 23, located 760 feet from the South line and

860 feet from the West line of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Paddock Pool and the production of oil from the Wantz-Abo Pool using parallel stings of 2 7/8-inch tubing cemented in a common well bore.

CASE 2080: Application of W. H. Swearingen for an amendment of Order No. R-1748. Applicant, in the above-styled cause, seeks an amendment of Order No. R-1748 to include the SE/4 NW/4 of Section 21 with the remainder of the N/2 of said Section 21, both in Township 18 South, Range 26 East, Eddy County, New Mexico, to form a standard 320-acre gas unit in the Atoka-Pennsylvanian Gas Pool. Applicant further seeks a determination of the well costs which are to be paid by the parties.

CASE 2081: Application of Phillips Petroleum Company and Phillips Chemical Company for permission to commingle the production from three separate leases. Applicant, in the above-styled cause, seeks permission to commingle the production from the Vacuum Pool from all wells on the following-described portions of three State leases:

State Lease No. B-2073, SE/4 NE/4 of Section 19

State Lease No. B-2388, NW/4 SE/4 of Section 20

State Lease No. B-1501, NE/4 NW/4 of Section 29

all in Township 17 South, Range 35 East, Lea County, New Mexico.

CASE 2082: Application of Pan American Petroleum Corporation for off-lease storage of oil. Applicant, in the above-styled cause, seeks an order authorizing it to store the Empire-Abo Pool production from its Malco "N" Lease (NW/4 and N/2 SW/4 of Section 15) in a separate tank battery to be located on its State "BR" Lease (NE/4 NE/4 of Section 16), both in Township 18 South, Range 27 East, Eddy County, New Mexico.

The following cases will not be heard before 1 p.m. on September 21, 1960.

CASE 2083: Application of Gulf Oil Corporation for a 160-acre non-standard gas proration unit and for an order force-pooling the mineral interests therein. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests within the vertical limits of the Tubb Gas Pool in a 160-acre

non-standard gas proration unit consisting of the W/2 E/2 of Section 14, Township 21 South, Range 37 East, Lea County, New Mexico, including the following non-consenting interest owners: J. M. Newton, Ronald J. Byers, Robert E. Byers, and Constance E. Byers. Said unit is to be dedicated to the Naomi Keenum Well No. 2, located 660 feet from the South line and 1980 feet from the East line of said Section 14.

CASE 2084: Application of Gulf Oil Corporation for permission to commingle the production from several separate pools and for permission to install two automatic custody transfer systems. Applicant, in the above-styled cause, seeks permission to commingle the production from the Brunson-Ellenburger Pool with production from the Hare Pool, and to commingle the production from the Terry-Blinebry Pool with the production from the North Paddock Pool, on its Harry Leonard "F" Lease, consisting of the E/2 of Section 2, Township 21 South, Range 37 East, Lea County, New Mexico. Applicant further seeks permission to install two automatic custody transfer systems to handle the aforesaid commingled production.

CASE 2085: Application of Gulf Oil Corporation for permission to commingle the production from several separate pools and for permission to install two automatic custody transfer systems. Applicant, in the above-styled cause, seeks permission to commingle the production from the Brunson-Ellenburger Pool with production from the Hare Pool, and to commingle the production from the Wantz-Abo Pool, Paddock Pool, Penrose-Skelly Pool and Drinkard Pool with the gas condensate production from the Tubb Gas Pool and the Blinebry Gas Pool, from all wells on its Eunice King Lease consisting of the N/2 of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico. Applicant further seeks permission to install two automatic custody transfer systems to handle the aforesaid commingled production.

CASE 2086: Application of Gulf Oil Corporation for an automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the installation of an automatic custody transfer system to handle the Gladiola (Devonian) Pool production from all wells presently completed or hereafter drilled on the M. M. Harris Lease comprising the NW/4 of Section 8, Township 12 South, Range 38 East, Lea County, New Mexico.

CASE 2087: Application of Gulf Oil Corporation for an automatic custody transfer system. Applicant, in the above-styled cause seeks an order authorizing the installation of an automatic custody transfer system to handle the Gladiola (Devonian) Pool production from all wells presently completed or hereafter drilled

on the Lea-State "AV" Lease comprising the NW/4 of Section 19, Township 12 South, Range 38 East, Lea County, New Mexico.

CASE 2088: Application of Tennessee Gas Transmission Company for an amendment of Order No. R-1755. Applicant, in the above-styled cause, seeks an order amending Order No. R-1755 to expressly designate the applicant as operator of the unit pooled in said order with all powers incidental to the proper operation of the unit including the power and authority to market the production from the unit well.

CASE 2089: Application of Val R. Reese & Associates, Inc. for the promulgation of special rules and regulations governing the Escrito-Gallup Oil Pool. Applicant, in the above-styled cause, seeks an order promulgating special rules and regulations governing the drilling, spacing and production of oil and gas wells in the Escrito-Gallup Oil Pool, Rio Arriba County, New Mexico and further, to extend said pool to include all of Section 25, Township 25 North, Range 7 West.

ig/

CARPER DRILLING COMPANY, INC.

OIL PRODUCTION AND DRILLING

1960 SEP 19 AM 8:27

EMERY CARPER, PRESIDENT
STANLEY CARPER, EXEC. VICE-PRES. & TREAS.
MARSHALL ROWLEY, VICE-PRES.
FRANCES BOOKER, SECRETARY
NELLIE MILLER, ASST. TREAS.

ARTESIA, NEW MEXICO
CARPER BUILDING
SHERWOOD 6-2784
SHERWOOD 6-2785

September 17, 1960

Case File
2078

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

Attention: Mr. A. L. Porter

Gentlemen:

Reference is made to Case 2078 which is an Application of Chambers & Kennedy for an oil - oil dual completion. This case is scheduled to be heard before an examiner on Wednesday, September 21, 1960.

It is our understanding that if this case is approved, it will be confined to the North Shugart Queen-Grayburg Pool, and if this is correct we have no objection.

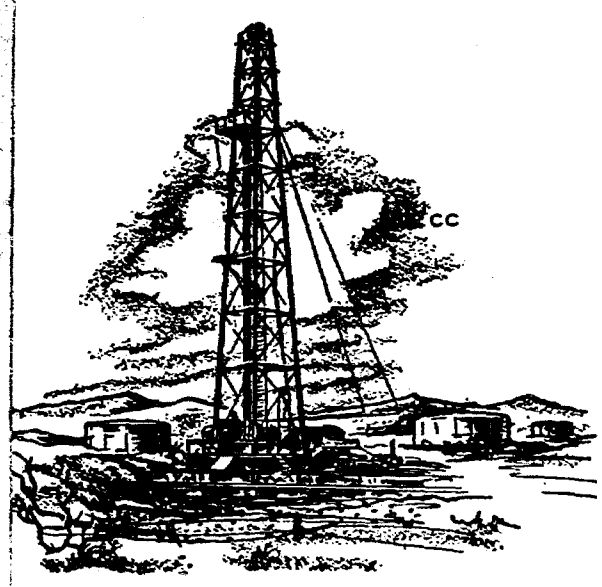
In the event this case should be extended to cover wells in the Shugart Pool, we wish to register a vigorous protest before such action is taken.

Yours very truly,

CARPER DRILLING COMPANY, INC.

Marshall Rowley

cc



Chambers & Kennedy
MAIN OFFICE SUITE 607
MIDLAND NATIONAL BANK BUILDING
MIDLAND, TEXAS

C. FRED CHAMBERS
W. O. KENNEDY

TELEPHONE
MU 4-4643

1960 AUG 25 AM

August 24, 1960

S.F. for hearing 9/1/60
Exception to rule 104
Size requirements

Mr. Daniel S. Nutter
Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Mr. Nutter:

Attached you will find a diagrammatic sketch of the two pumping unit installation that Chambers & Kennedy proposes to use to dually complete their Monterey-State #2 well. In this installation each zone would have its own individual bottom hole pump, rod string and pumping unit.

If there is additional information that we could furnish you, we will be glad to do so.

Yours very truly,

CHAMBERS & KENNEDY

W. J. Alexander

W. J. Alexander
Engineer

WJA:aa
Encl.

Case 2078

Application filed 9-9-60

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

2078

August 11, 1960

[illegible] and Kennedy
[illegible], NM
[illegible] National Bank Building
Midland, Texas

Gentlemen:

We are in receipt of your application for administrative approval to dually complete your Monterey State Well No. 2, located in Unit D, Section 33, Township 18 South, Range 31 East, Eddy County, New Mexico.

We regret to inform you that this application cannot be approved administratively, but must go to public hearing for a decision. This is necessary for two reasons: First, our rules require that any dual completion, to be eligible for administrative approval, must be within one mile of a similar dual completion which has previously been authorized after notice and hearing, or its must be within the horizontal limits of two pools which have been approved for dual completion after notice and hearing. Your well is not within one mile of a previously authorized dual completion in the same two zones nor is it within the horizontal limits of any pool producing from the Yates or the Queen formations, the formations in which you propose to complete.

Secondly, your request for dual completion cannot be handled administratively because of the dual zone pumping equipment which you propose to install. The Commission has never recognized this type of equipment as eligible for administrative approval and has in fact approved only one such application after hearing. This was the Cities Service case, which, after two hearings was finally approved on a temporary

COPY

Chambers & Kennedy
SUITE 607
MIDLAND NATIONAL BANK BUILDING
MIDLAND, TEXAS

C. FRED CHAMBERS
W. O. KENNEDY

TELEPHONE
MU 3-4643

August 8, 1960

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

Please find enclosed data needed to complete application for dual completion of Chambers and Kennedy Monterey State #2 in Eddy County, New Mexico.

Lacking is waiver consenting to dual completion from Yates Brothers, Artesia, New Mexico. They were furnished with said waiver on July 8, 1960 and as yet have not returned the signed waiver to us. We are contacting them again today regarding this waiver, and will forward it to your office immediately upon its receipt here.

Very truly yours,

CHAMBERS & KENNEDY

By: Joan Davis,
Production Secretary

encs.

MAIN OFFICE OCC
1960 AUG 10 AM 8 24
MAIN OFFICE OCC
1960 AUG 10 AM 8 24

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

W A I V E R

The undersigned, being an offset operator to the Chambers & Kennedy Monterey State in the N. Shugart Queen Grayburg field, Eddy County, New Mexico, hereby waives any right to protest the dual completion of the Monterey State #2 well with the understanding that the Penrose zone will be produced through 1½ inch tubing, and the Yates zone will be produced through two inch tubing.

TEXAS GULF PRODUCING COMPANY
MIDLAND, TEXAS

BY: H. W. Hull

DATE: July 14, 1960

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

W A I V E R

The undersigned, being an offset operator to the Chambers & Kennedy Monterey State in the N. Shugart Queen Grayburg field, Eddy County, New Mexico, hereby waives any right to protest the dual completion of the Monterey State #2 well with the understanding that the Penrose zone will be produced through 1½ inch tubing, and the Yates zone will be produced through two inch tubing.

Iverson & Welch
Artesia, New Mexico

BY: I & S Welch

DATE: 7-19-60

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

W A I V E R

The undersigned, being an offset operator to the Chambers & Kennedy Monterey State in the N. Shugart Queen Grayburg field, Eddy County, New Mexico, hereby waives any right to protest the dual completion of the Monterey State #2 well with the understanding that the Penrose zone will be produced through 1½ inch tubing, and the Yates zone will be produced through two inch tubing.

THE PURE OIL COMPANY
~~ROSWELL, NEW MEXICO~~
Fort Worth, Texas

BY: James L Mann

Manager, Texas Producing Division

DATE: 7/18/60

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

W A I V E R

The undersigned, being an offset operator to the Chambers & Kennedy Monterey State in the N. Shugart Queen Grayburg field, Eddy County, New Mexico, hereby waives any right to protest the dual completion of the Monterey State #2 well with the understanding that the Penrose zone will be produced through 1½ inch tubing, and the Yates zone will be produced through two inch tubing.

SUNRAY MID-CONTINENT OIL COMPANY
Hinkle Building
Roswell, New Mexico

BY: E J Pierce

DATE: 7/25/60

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO 7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name	County	Date
N. SHUGART, QUEEN-GRAYBURG	EDDY	7-8-60

Operator	Lease	Well No.
CHAMBERS & KENNEDY	MONTEREY STATE	2

Location of Well	Unit	Section	Township	Range
	D	32	18 S	31 E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES ____ NO ____

2. If answer is yes, identify one such instance: Order No. R-1481 ; Operator, Lease, and Well No.:

JOSEPH I. O'NEILL, FEDERAL "E" WELL #3, EULWIN FIELD, CASE #1753

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	YATES	PENROSE
b. Top and Bottom of Pay Section (Perforations)	2625 to 2635 NOT YET PERFORATED	3448 to 3463 PERFS 3448 to 3462
c. Type of production (Oil or Gas)	OIL	OIL
d. Method of Production (Flowing or Artificial Lift)	FLOW OR PUMP	PUMP

4. The following are attached. (Please mark YES or NO)

YES a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.

YES b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.

YES c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*

YES d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

IVERSON & WELCH ARTESIA, NEW MEXICO

PURE OIL COMPANY WHITE BUILDING ROSWELL, NEW MEXICO

TEXAS GULF PRODUCING CO. MIDLAND NAT'L BANK BLDG. MIDLAND, TEXAS

SUN-RAY MID-CONTINENT HINKLE BUILDING ROSWELL, NEW MEXICO

YATES BROTHERS ARTESIA, NEW MEXICO

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO ____. If answer is yes, give date of such notification 7-8-60 .

CERTIFICATE: I, the undersigned, state that I am the GEOLOGIST of the CHAMBERS & KENNEDY (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

William A. Hall
Signature

* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

Chambers & Kennedy

MIDLAND NATIONAL BANK BUILDING
MIDLAND, TEXAS

1960 AUG 18 AM 8:16

2078

C. FRED CHAMBERS
W. D. KENNEDY

August 16, 1960

TELEPHONE
MU 3-4643

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Re: CHAMBERS & KENNEDY SUNRAY MID-CONTINENT #2
Eddy County, New Mexico

Gentlemen:

Please find enclosed additional waiver from Yates Brothers, Artesia, New Mexico concerning the dual completion of the CHAMBERS & KENNEDY SUNRAY MID-CONTINENT #2

This signed waiver was received in our office today.

Very truly yours,

CHAMBERS & KENNEDY

By: J. Davis
J. Davis,
Production Secretary

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

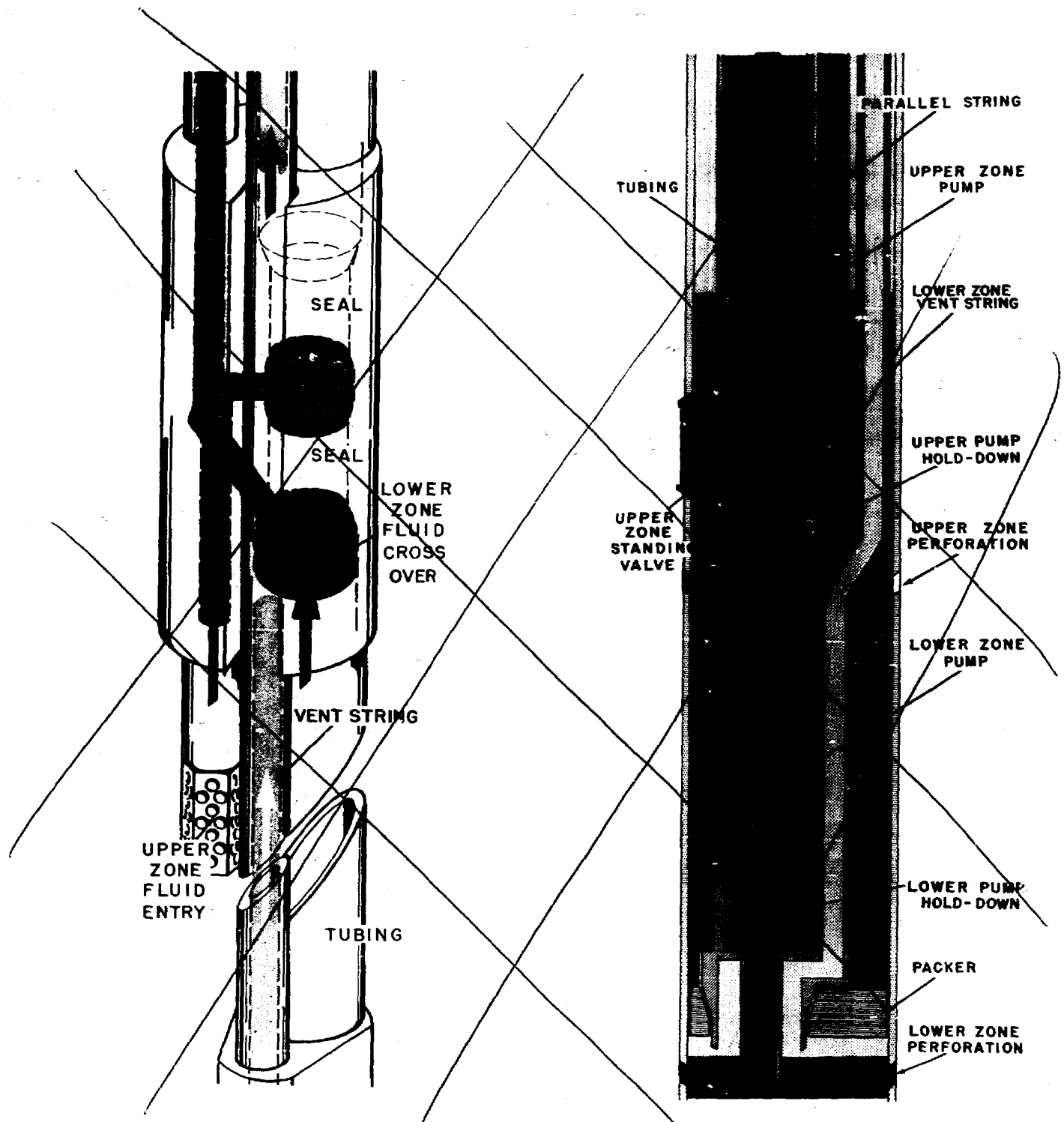
W A I V E R

The undersigned, being an offset operator to the Chambers & Kennedy Monterey State in the N. Shugart Queen Grayburg field, Eddy County, New Mexico, hereby waives any right to protest the dual completion of the Monterey State #2 well with the understanding that the Penrose zone will be produced through 1½ inch tubing, and the Yates zone will be produced through two inch tubing.

YATES BROTHERS
Artesia, New Mexico

BY: R. P. Yates

DATE: 8/16/50



In the **DZ2090** installation 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 to the surface, a second string of tubing conducts the lower zone gas from below the packer to the surface, and a third string conducts the lower zone fluid from the crossover shoe to the surface. Gas from the upper zone is vented up the casing. The two shorter strings are clamped onto the long string and they are run into the well together. The vent string passes the crossover shoe in a slot provided for this purpose. The **DZ2090** is designed to run in 5½ in. casing.

FIG. 2
SINGLE PACKER TRIPLE STRING
Installation Typical of
DZT2090

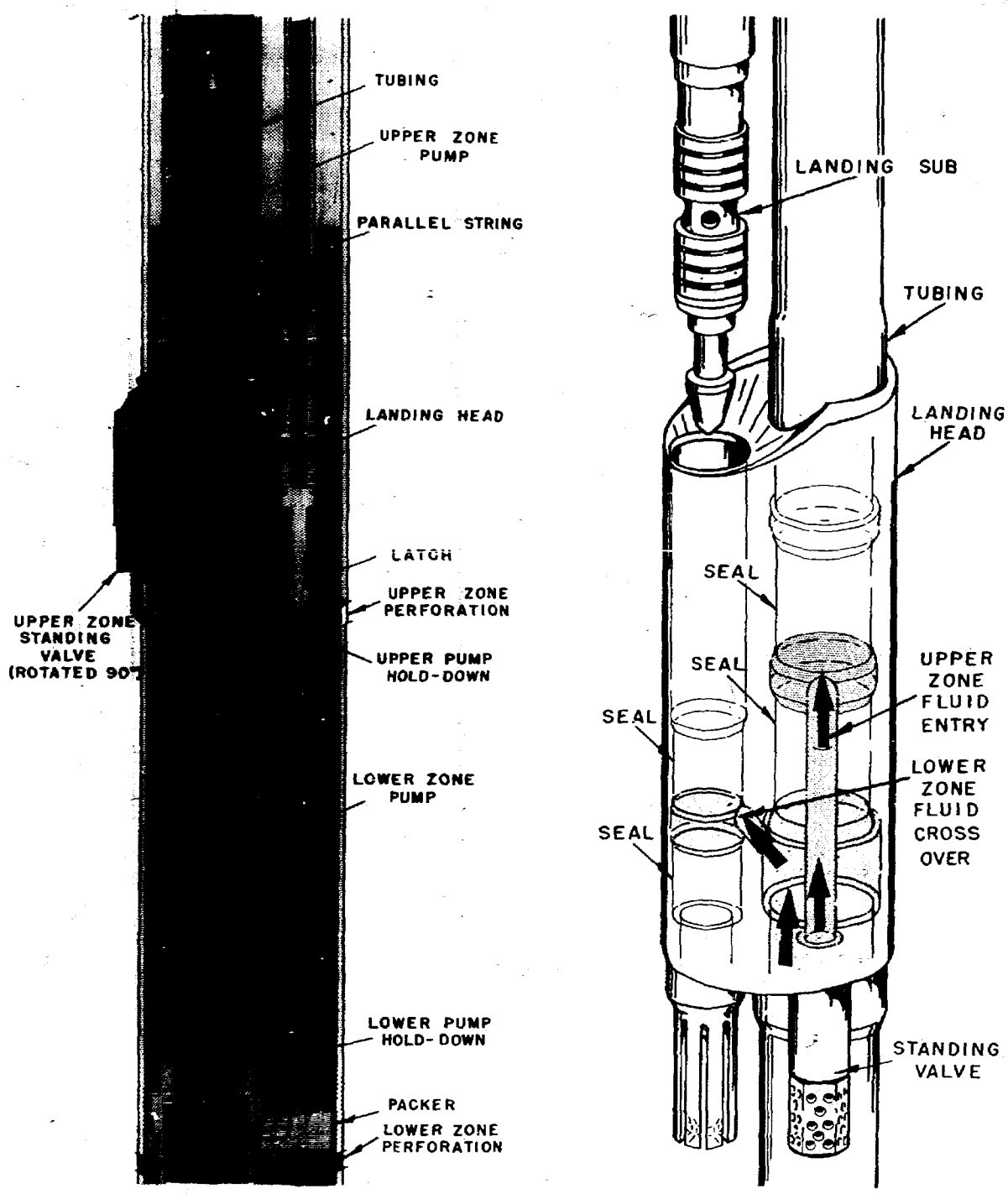
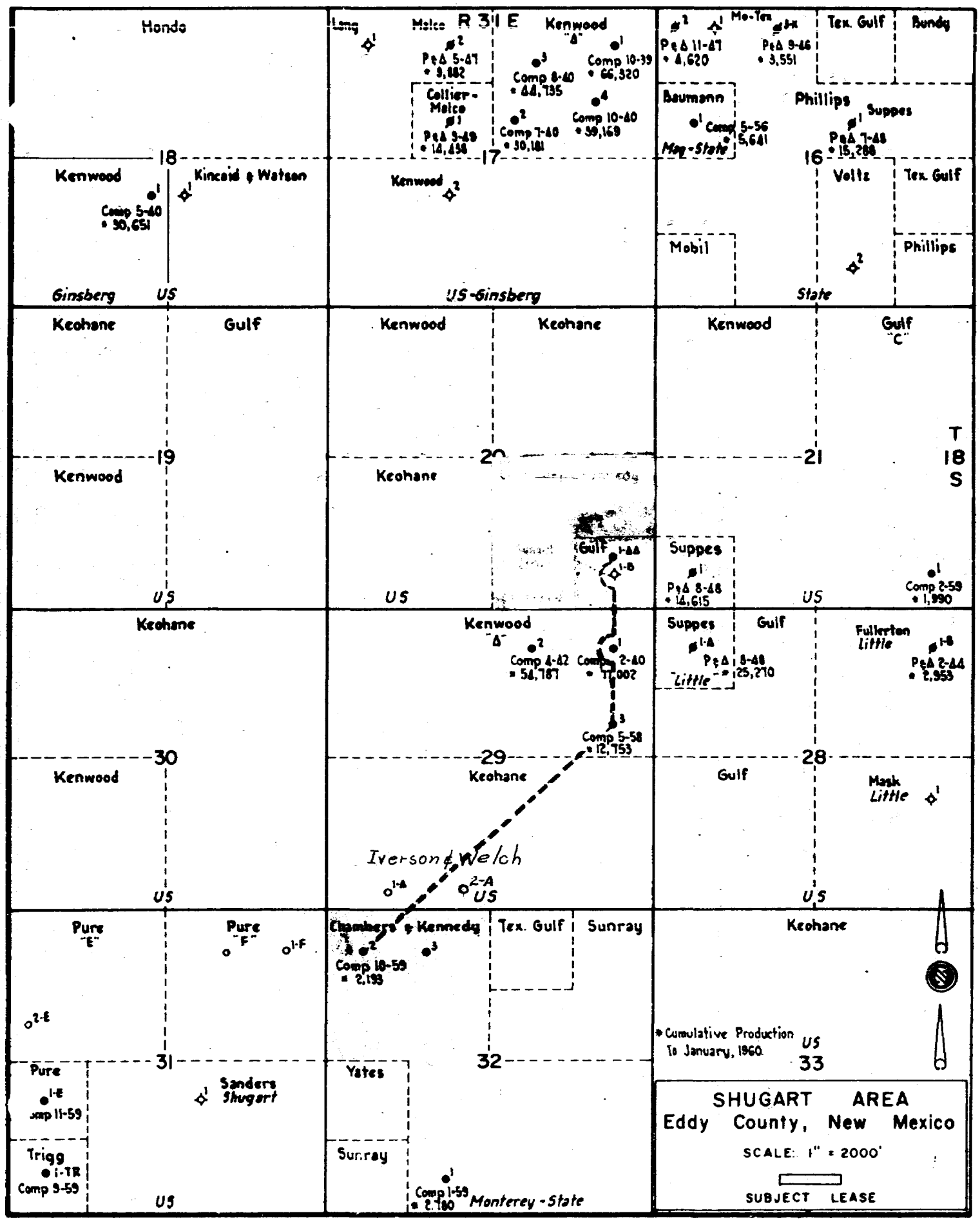


FIG. 3
SINGLE PACKER DOUBLE STRING
Installation Typical of
DZT2092-55 **DZT2092-70**
DZT2592-70

In the **DZ2092** and **DZ2592** installations, 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.


R 31 E
T 18 S
Hondo
Long
Melco
Kenwood "A"
Mo-Tex
Tex. Gulf
Bundy
Pet Δ 5-47 • 9,882
Comp 8-40 • 44,735
Comp 10-39 • 66,320
Collier-Melco
Pet Δ 5-49 • 14,458
Comp 7-40 • 30,181
Comp 10-40 • 39,169
Pet Δ 11-47 • 4,620
Pet Δ 9-46 • 3,551
Baumann
Comp 5-56 5,641
Mag-State
Phillips
Suppes
Pet Δ 7-48 • 15,288
18
17
16
Kenwood
Comp 5-40 • 30,651
Kincaid & Watson
Kenwood
Voltz
Tex. Gulf
Mobil
Phillips
Ginsberg
US
US-Ginsberg
State
Keohane
Gulf
Kenwood
Keohane
Kenwood
Gulf "C"
19
20
21
Kenwood
Keohane
Gulf 1-AA 1-B
Suppes
Pet Δ 8-48 • 14,615
Comp 2-59 • 1,990
US
US
US
Keohane
Kenwood "A"
Comp 4-42 • 54,787
Comp 2-40 • 11,002
Comp 5-58 • 12,753
Suppes
Gulf
Fullerton Little
Pet Δ 8-48 • 25,270
Little
Pet Δ 2-44 • 2,953
30
29
28
Kenwood
Keohane
Gulf
Mask Little
Iverson & Welch
1-A
2-A
US
US
US
Pure "E"
Pure "F"
1-F
2-E
Chambers & Kennedy
Comp 10-59 • 2,193
Tex. Gulf
Sunray
Keohane
* Cumulative Production To January, 1960
31
32
33
US
Pure
1-E
Comp 11-59
Sanders Shugart
Yates
Trigg
1-TR
Comp 9-59
Sunray
Comp 1-59 • 2,780
Monterey-State
SHUGART AREA
Eddy County, New Mexico
SCALE: 1" = 2000'
SUBJECT LEASE

Chambers & Kennedy
SUITE 607
MIDLAND NATIONAL BANK BUILDING
MIDLAND, TEXAS

C. FRED CHAMBERS
W. D. KENNEDY

TELEPHONE
MU 3-4443

SEPTEMBER 19, 1960

(7 pages)

Chambers & Kennedy Monterey State #2
1-N, 32-18-31, Eddy Co., New Mexico

This well has 5½", 14# csg. with a drift dia. of 4.887" Cemented @ 3500'. To dual complete this well either of the following installations may be used.

Installation #1

Two strings of HYDRIL type "CS" tubing with a joint O.D. of 2.33" or a combined dimension of 4.66" and a clearance of 0.227" can be used. This tubing can be purchased @ $1.339/ft.

Yates pay @ 2620 @ $1.339/ft	:	3,408.18
Penrose pay @ 3430 @ 1.339/ft	:	4,592.77
		8,100.95

Installation #2

One string of Tex-Tube 1½" series 301 Integral joint tubing with a joint O.D. of 2.110". And one string of Tex-Tube 2 3/8" series 301 Integral joint tubing with a joint O.D. of 2.70" or a combined dimension of 4.81" and a clearance of 0.077 inches can be used. The 1½ tubing can be purchased @ $0.501/ft and the 2 3/8" @ $0.864/ft.

Yates Pay @ 2620 @ $0.501/ft.	:	1,312.62
Penrose Pay @ 3430 @ $0.864/ft.	:	2,963.52
		4,276.14

With installation No. 2 Chambers & Kennedy will be able to make a saving of $3,842.81, or a difference of 89.45%.

With 1½" tubing in this well at 2620' it can be pumped with an 1¼" insert pump on ½" sucker rods, and a 25,000 inch-pound torgue gear box pumping unit. The attached calculations by Continental-Emsco give the production that may be produced with reasonable loads for this unit. These production

rates are high enough to recover the allowable of this well for any rate that may be established in the foreseeable future. At the present time we do not anticipate much water in this zone, but should it become a factor we will be able to handle it because these calculations are for water at the pump level with no help from gas.

Since the lower zone of this well has been sand-fractured and it may be necessary from time to time to clean out the sand from the well bore for stimulation reasons, we propose to use a Brown Oil Tools By-Pass packer. This packer may be pulled so that cleanout work may be performed. This packer also has the added advantage that gas from below the packer may be vented into the 2 3/8" tubing string through which the lower zone will be producing whereby less gas locking trouble should be experienced by the lower pump.

WELL INSTALLATION WORK SHEET

Company Chambers & Kennedy Lease _____ Well # _____ Date 9-19-60

Plunger 1¼ Stroke 26 SPM 20 Pump Depth 7600 Desired Prod. Max Impulse Factor 1.15

1/2 ~~5/8"~~ Rods 100 % 7600 ft. 3/4" Rods _____ % _____ ft. 7/8" Rods _____ % _____ ft.

1" Rods _____ % _____ ft. 1-1/8" Rods _____ % _____ ft.

Weight of Fluid: W_f = (Wt. per foot on Plunger) Multiplied by (Depth) = 1380 lbs.

SIZE	WT/FT	LENGTH	BUOY.	EFFECTIVE WT OF RODS	F	STRESS
1/2 ~~5/8"~~	~~(1.24)~~ 1.72	(7600)	(.875) =	(1640 lbs)	(1.15) = 1880 lbs	
				Load on top 5/8" Rods	= 3260 lbs ÷ .307 = 16,500	psi
3/4"	(1.62)	(_____)	(.875) =	(_____ lbs)	(_____) = _____ lbs ÷	
				Load on top 3/4" Rods	= _____ lbs ÷ .442 = _____	psi
7/8"	(2.17)	(_____)	(.875) =	(_____ lbs)	(_____) = _____ lbs ÷	
				Load on top 7/8" Rods	= _____ lbs ÷ .601 = _____	psi
1"	(2.88)	(_____)	(.875) =	(_____ lbs)	(_____) = _____ lbs	
				Load on top 1" Rods	= _____ lbs ÷ .785 = _____	psi
1-1/8"	(3.67)	(_____)	(.875) =	(_____ lbs)	(_____) = _____ lbs	
				Load on top 1-1/8" Rods	= _____ lbs ÷ .994 = _____	psi

Effective Weight of Rods: EW_r = (1640 lbs) PPRL = 3260 lbs

Minimum Polished Rod Load: MPRL = EW_r (1.87 - F) = (1640) (.72) = 1185 lbs.

Load Ratio: $\frac{(PPRL - MPRL)}{(PPRL)}$ (100) = $\frac{(2085)}{(3260)}$ (100) = 64 %

Coefficient of Rod Stretch

$C_r = C_1 \%_1 + C_2 \%_2 + C_3 \%_3$ = (_____) (_____) + (_____) (_____) + (_____) (_____) = _____

Coefficient of Tubing Stretch (C_t = 0 if tubing anchored) Not Anchored: C_t —

Total Coefficient of Stretch: $C = C_r + C_t$ = _____ + _____ = ✓

Total Stretch: $E = C\ (D/1000)^2$ = _____ (_____)^2 = 12 In.

Overtravel: $O = (1.41)\ (F-1)\ (D/1000)^2$ = (1.41) (.15) (7.72)^2 = 1.5 In.

Plunger Stroke: $S_p = S - E + O$ = 26 - 12 + 1.5 = 15.5 In.

Theoretical Production (100%): (K, PLGR. Constant) (S_p) (SPM) = (.182) (15.5) (20) = 56.5 bbls/day

Production at 80% Pump Efficiency: .80 (Theo. Prod.) = .80 (56.5) = 45 bbls/day

Counterbalance Effect: $W_r + \frac{\text{Fluid Wt.}}{2}$ = 1640 + 690 = 2330 lbs

Peak Torque: (PPRL -CB) (S/2) = (930) (13) = 12,100 In. lbs.

Prime Mover Horsepower (Single Cylinder & CE Green ▲ Electric Motors)

$HP = \frac{\text{Depth} \times \text{Prod. (Based on 100\% PR Stroke)}}{85{,}000}$ = $\frac{(\quad)\ (\quad)}{85{,}000}$ = _____

Non-Synchronous Pumping Speeds (Desirable) _____ SPM

Remarks: _____

FORM 832-R-1, 12-57

24/48 (5) 12 11.5 - 1.10 20 - 1.05

WELL INSTALLATION WORK SHEET

Company Chambers & Kennedy Lease _____ Well # _____ Date 7-19-60

Plunger 1 1/4" Stroke 26" SPM 14 Pump Depth 2600 Desired Prod. MAX Impulse Factor 1.07

1/2" Rods 100 % 2600 ft. 3/4" Rods _____ % _____ ft. 7/8" Rods _____ % _____ ft.

1" Rods _____ % _____ ft. 1-1/8" Rods _____ % _____ ft.

Weight of Fluid: W_f = (Wt. per foot on Plunger) Multiplied by (Depth) = 1380 lbs.

SIZE	WT/FT	LENGTH	BUOY.	EFFECTIVE WT OF RODS	F		STRESS
1/2"	(.72)	(2600)	(.875) =	(1640 lbs)	(.607) =	1750 lbs	
				Load on top 1/2" Rods =		3130 lbs ÷ .147 =	15,900 psi
3/4"	(1.62)	(_____)	(.875) =	(_____ lbs)	(_____) =	_____ lbs ÷	
				Load on top 3/4" Rods =		_____ lbs ÷ .442 =	_____ psi
7/8"	(2.17)	(_____)	(.875) =	(_____ lbs)	(_____) =	_____ lbs ÷	
				Load on top 7/8" Rods =		_____ lbs ÷ .601 =	_____ psi
1"	(2.88)	(_____)	(.875) =	(_____ lbs)	(_____) =	_____ lbs	
				Load on top 1" Rods =		_____ lbs ÷ .785 =	_____ psi
1-1/8"	(3.67)	(_____)	(.875) =	(_____ lbs)	(_____) =	_____ lbs	
				Load on top 1-1/8" Rods =		_____ lbs ÷ .994 =	_____ psi

Effective Weight of Rods: EW_r = (_____ lbs) PPRL = 3130 lbs

Minimum Polished Rod Load: MPRL = EW_r (1.87 - F) = (1640) (.80) = 1320 lbs.

Load Ratio: $\frac{(PPRL - MPRL)}{(PPRL)}$ (100) = $\frac{(1810)}{(3130)}$ (100) = 57 %

Coefficient of Rod Stretch

~~$C_r = C_1 \%_1 + C_2 \%_2 + C_3 \%_3$~~ = (_____)(_____) + (_____)(_____) + (_____)(_____) = 12"

Coefficient of Tubing Stretch (C_t = 0 if tubing anchored) Not Anchored: C_t 0 ✓

Total Coefficient of Stretch: $C = C_r + C_t$ = _____ + _____ = _____

Total Stretch: $E = C\ (D/1000)^2$ = _____ (_____)^2 = 12 In.

Overtravel: $O = (1.41)\ (F-1)\ (D/1000)^2$ = (1.41) (_____) (_____)^2 = 1 In.

Plunger Stroke: $S_p = S - E + O$ = 26 - 12 + 1 = 15 In.

Theoretical Production (100%): (K, PLGR. Constant) (S_p) (SPM) = (.182) (15) (14) = 38.2 bbls/day

Production at 80% Pump Efficiency: .80 (Theo. Prod.) = .80 (38.2) = 30.5 bbls/day

Counterbalance Effect: $W_r + \frac{\text{Fluid Wt.}}{2}$ = 1640 + 690 = 2330 lbs

Peak Torque: (PPRL -CB) (S/2) = (800) (13) = 10,400 In. lbs.

Prime Mover Horsepower (Single Cylinder & CE Green ▲ Electric Motors)

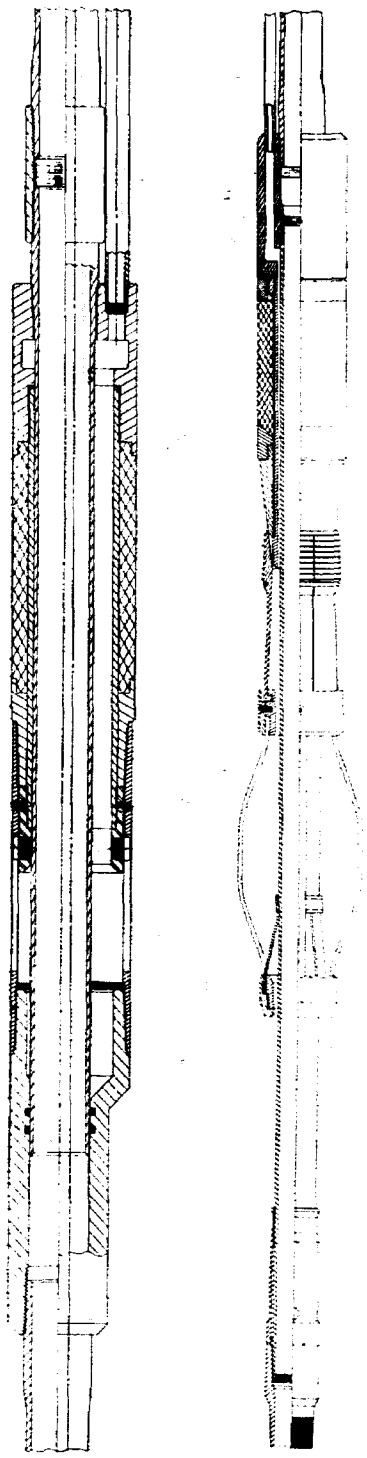
$HP = \frac{\text{Depth x Prod. (Based on 100\% PR Stroke)}}{85{,}000}$ = $\frac{(2600)\ (66)}{85{,}000}$ = .8

Non-Synchronous Pumping Speeds (Desirable) 11 - 16.5 - 20 SPM

Remarks: _____

FORM 832-R-1, 12-57

BROWN OIL TOOLS, INC.



Anchor By-Pass Packer

Boll Weevil By-Pass Packer

BROWN BY-PASS PACKERS

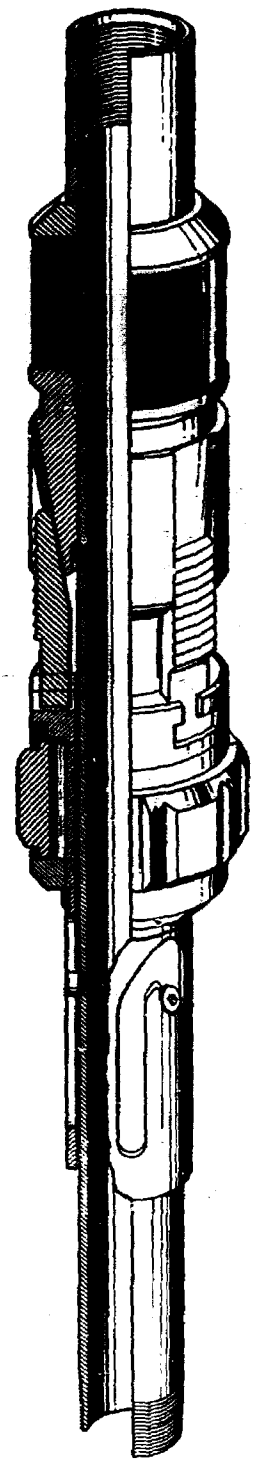
The Brown By-Pass Packers are designed for gas lift chamber installations and are ideally suited for both high and low productivity, low bottom hole pressure wells. In either type, the bottom hole pressure is not sufficient to support a column of fluid that can be efficiently intermitted by a conventional installation. In using the Brown By-Pass Packer as part of the chamber installation it assures increased slug volume, therefore more fluid per cycle, particularly in wells operated at maximum cycle rates. All By-Pass packers are furnished with a top by-pass connection. A bottom by-pass connection is furnished when specified. The Brown By-Pass Packers are furnished in two types which differ in the setting procedure. The Brown Boll Weevil By-Pass Packer has the standard Boll Weevil setting principle which requires only tubing reciprocation to set. This rugged, easy to set packer is especially applicable in deep or crooked holes where packers requiring rotation to set cannot be used successfully. The Brown Anchor By-Pass Packer is set by applying weight which shears the shear pins and compresses the seal.

ENGINEERING DATA ON BROWN BY-PASS PACKERS

Shear Pin By-Pass	Casing		Packer O.D. in.	Overall Packer Length in.	Travel To Set in.	First String I.D. in.	Small String Connection	Total Packer Slip Area Sq. In.	Body Length in.
	O.D., In.	Lb/Ft							
2 x 5½	5½	13-17	4⅝	41	3	2	½ Line Pipe	....	6¼
2½ x 7	7	26	5¾	58	3	2⅜	½ Line Pipe	....	7
2½ x 7	7	32-35	5⅝	58	3	2⅜	½ Line Pipe	....	7
Boll Weevil By-Pass									
2 x 5½	5½	13-17	4⅝	85	14	2	½ Line Pipe	32	8¾
2 x 7	7	17-20	6	92	15	2	½ Line Pipe	63	8½
2 x 7	7	26	5¾	92	15	2	½ Line Pipe	60	8½
2½ x 7	7	17-20	6	92	15	2⅜	½ Line Pipe	63	8½
2½ x 7	7	26	5¾	92	15	2⅜	½ Line Pipe	60	8½

Parts, prices, and operating instructions for Brown production tools are contained in the general "Parts and Price List", and can be obtained by writing to Brown Oil Tools, Inc., P. O. Box 19236, Houston 24, Texas.

BROWN OIL TOOLS, INC.



CAM-LOK
Weight Set Packer

BROWN CAM-LOK PACKER

CAM-LOK *is a* weight set packer

a tension set packer

a tension tubing anchor

a tubing catcher

and it is convertible at the well . . .

CAM-LOK is a tough, compact, full-opening, retrievable, reliable tool. In its simplest application, **CAM-LOK** is used as a weight set packer. **CAM-LOK** is set in tension to take advantage of pressure from below when testing, water flooding, fracturing, acidizing, or in shallow wells where the tubing weight and casing fluid column may not be sufficient to hold the packer weight-set against high bottom hole pressure.

Use **CAM-LOK** as a packer during the flowing life of your well. When the well goes on the pump, convert **CAM-LOK** to a tubing anchor while you are working over the well and run it back. Thrifty? You bet it is!

AND POSITIVE, TOO . . .

CAM-LOK is the most controllable mechanical packer you can put in your well.

Less than one quarter turn of the tubing in either direction operates the unique Brown cam mechanism, to grip the casing like a pipe wrench working from the inside. This wrench grip, not friction springs or blocks, will lock the packer in place as long as torque is held in the tubing—to permit lifting or slack-off of the tubing to set or release the packer. **CAM-LOK** is the industry's best insurance against failure of a packer to release.

AND IT'S SIMPLE TO OPERATE . . .

TO SET WITH WEIGHT:

Make up **CAM-LOK** in the tubing string with its seal end up. Run in hole to setting depth, then pick up on tubing two or three inches (at the packer) to make sure jay pin is on top of slot. Manually torque tubing to the right to actuate the cam mechanism, and hold torque while lowering tubing to the desired setting weight.

TO RELEASE FROM WEIGHT SETTING:

Just pick up on tubing and come out of hole.

TO SET WITH TENSION:

Make up **CAM-LOK** in tubing string with seal end down. Set jay latch pin in short slot and run packer to setting depth. Apply torque to tubing. Cam mechanism will lock packer in position.

Hold left-hand torque while lowering tubing two or three inches to clear jay pin from short slot, then pick up to setting weight, and release torque.

TO RELEASE FROM TENSION SETTING:

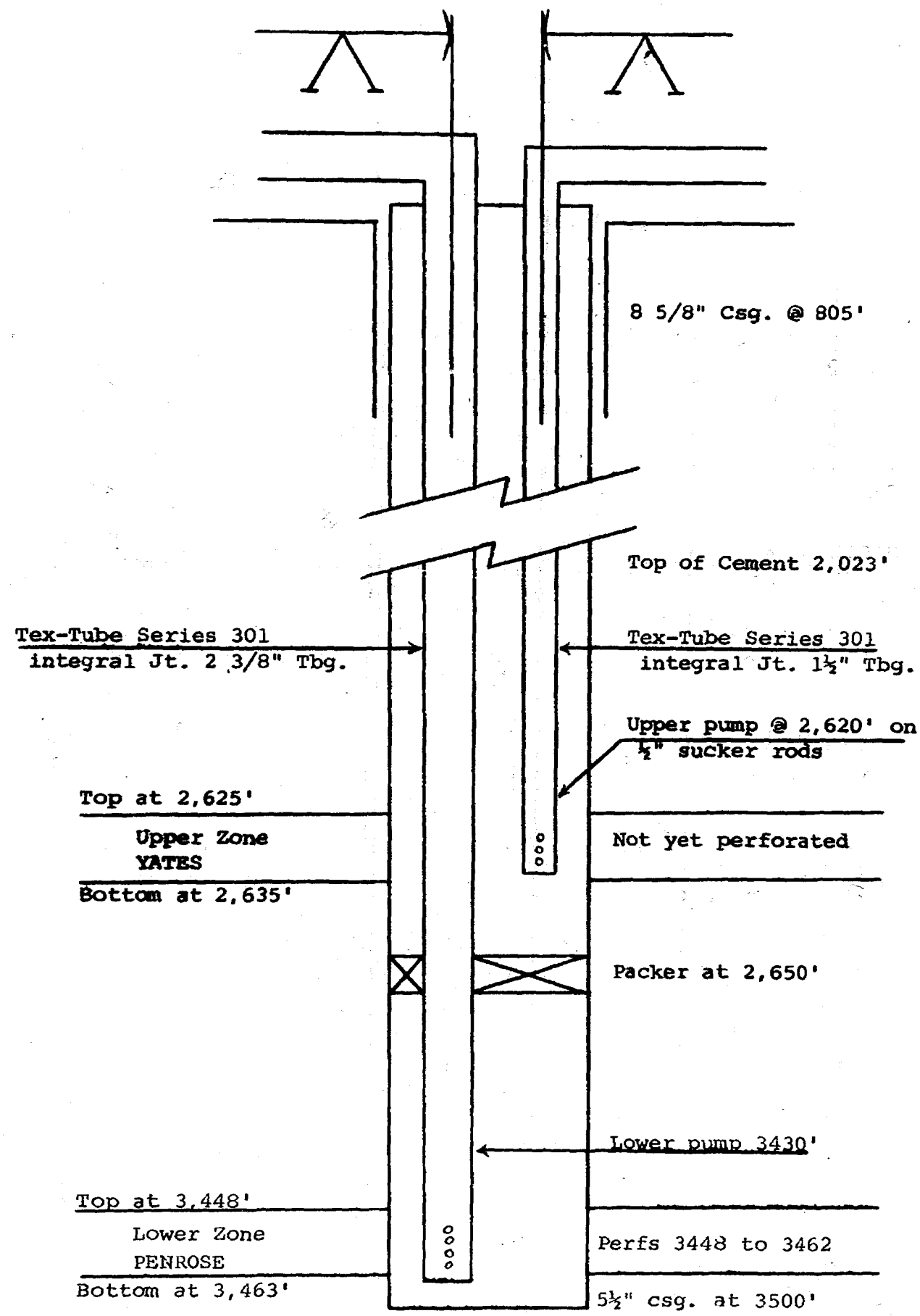
Release tubing tension to set down on packer. Manually turn tubing to right with tongs. Lower another six inches (at the packer), then pick up on tubing. When torque is released, tubing and packer may be pulled out of the hole.

Parts, prices, and operating instructions for Brown production tools are contained in the general "Parts and Price List," and can be obtained by writing to Brown Oil Tools, Inc., P. O. Box 19236, Houston 24, Texas.

DIAGRAMMATIC SKETCH OF DUAL COMPLETION INSTALLATION

CHAMBERS & KENNEDY

Monterey-State Well No. 2
1-N, 32-18-31, Eddy Co., N. M.



NOTE: Well to be pumped with two strings of tods and two units. Tubing, packer, & pump depths are approximate.

BEFORE THE
OIL CONSERVATION COMMISSION
September 21, 1960

Examiner Hearing

IN THE MATTER OF:

Application of Chambers & Kennedy for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Monterey State Well No. 2, Unit D, Section 32, Township 18 South, Range 31 East, Eddy County, New Mexico, in such a manner as to permit the production of oil from an undesignated Yates oil pool and the production of oil from the North Shugard Queen-Grayburg Pool through parallel strings of 1½-inch and 2 3/8-inch tubing respectively.

CASE NO. 2078

BEFORE:

Daniel S. Nutter, Examiner
Oliver E. Payne

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: We will call next Case 2078.

MR. PAYNE: Application of Chambers & Kennedy for an oil-oil dual completion.

MR. McKENNA: I am Tom McKenna, appearing for the applicant. I have one witness, Mr. William Jackson Alexander. I believe we will have only one exhibit and I would like to have this marked for identification as Exhibit 1.

(Whereupon, Applicant's Exhibit Number 1 was marked for identification.)

(Witness sworn.)

***

WILLIAM JACKSON ALEXANDER

called as a witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. McKENNA:

Q Will you state your name, please?

A William Jackson Alexander.

Q Where do you reside?

A Odessa, Texas.

Q And for whom are you employed?

A Chambers & Kennedy.

Q Have you testified before this Commission at any other time?

A I have not.

Q What is your age, Mr. Alexander?

A Thirty-six.

Q And can you advise the Examiner what your employment is with Chambers & Kennedy?

A I am an Engineer and Production Superintendent for the Company. I supervise the drilling and completion of our wells, the

work-over activities that we have and the purchasing and installation of equipment.

Q What is your education, Mr. Alexander?

A I am a graduate, I have a Petroleum degree from Texas A & M College, June 1950.

Q Can you tell the Examiner something of your employment record?

A After graduation I was employed by the Ohio Oil Company as field engineer doing wire line, gas-oil ratios and running and cementing of casing. Afterwards I worked for British American Oil Producing Company as field engineer and as production foreman prior to going to work for Chambers and Kennedy in 1957.

MR. McKENNA: Mr. Examiner, I move his qualifications be accepted as an expert.

MR. NUTTER: The witness is qualified, please proceed.

Q (By Mr. McKenna) Mr. Alexander, have you supervised the present order, the drilling of the Monterey on the State Number 2?

A I have supervised the drilling and running of the casing and the cementing is the same on this well.

Q Have you prepared, or at your direction has a diagrammatic sketch of the proposed completion been prepared?

A It has been prepared, which I would like to refer to if the Commission would care to follow a diagram showing our 8 5/8 casing set at 805 feet, cementing to surface. 5 1/2-inch casing

cemented at 3500 feet with the top of the cement at 2023 feet by temporary survey, a knot made about midway up. The proposed installation, what we would like to make is two strings of tubing, which is manufactured by Texas Tube Corporation in Houston. It is an integral joint tubing and is the only type that we can get of these two sizes in this particular size, in the hole. 2 3/8 would be run to the lower zone, which is the Penrose, which is from 3448 to 3463, and it is presently perforated and producing from the interval of 3448 to 3462. This zone has been producing for nearly a year at the present time. The second zone which we propose to dual complete with is the Yates zone at an interval from 2625 to 2635 which has not yet been perforated, which would be produced through 1 1/2-inch tubing, pumped with 1/2-inch sucker rods with 1 1/2 insert pump.

Q Mr. Alexander, where will, can you describe where your packer will be?

A The packer would be roughly 2650 feet.

Q What type of packer do you contemplate using?

A We propose to use a Brown By-pass packer, which is the sheet immediately before the diagrammatic sketch, the Brown By-pass packer, and the primary reason for using this packer is the fact that the gas from immediately below the packer may be vented through it and then back into the 2 3/8-inch tubing whereby we should experience less trouble with the lower pump attempting to give us any gas lock problem. If you like, I would point out this by-pass

this by-pass comes right up the mandrel behind your rubber through this area here, this is your by-pass, it comes right up here and ties in, although it is not shown on this diagram, it ties into your 2 3/8-inch tubing. There is no calculations that will show why it does it, other than in actual practice. Where you got a reasonable amount of volume for the gas to collect in, in which in this instance we have 600 feet, why the gas will collect and vent off and you will not have to handle it through the pump and thereby gives you a more efficient pumping operation for your lower zone.

Q That packer, also this type of packer facilitate any future clean out problems, is that one of the reasons why you suggest that?

A This is a retrievable packer and in view of the lower sand has fracked there as a possibility it might have to be cleaned out from time to time. We would be able to retrieve this packer and not have to drill it out as we would a permanent packer. Thereby, sand pump this zone due to the fact these pays once they are fracked do not have enough bottom hole pressure to establish a full column of fluid, thereby, prohibiting the process of reversing out sand with oil. It is almost a necessity to get the sand out of the hole with the sand pump.

Q Do you contemplate any corrosion problems?

A We do not. This well was pulled recently to change the pump in it and in it we found no indication of any corrosion of sucker rods, pump or tubing.

Q Have you conducted any tests to determine if there are any casing leaks?

A The casing was pressure tested prior to the time it was perforated and at that time had no leaks.

Q Can you advise the Examiner your plans for segregating the common sources of supply and to prevent the commingling of hydrocarbons from these zones?

A On this at the present time we have a well producing from the Yates and we would propose, we would use a flow line to the battery in which the number 1 well is producing from the Yates pay.

Q Do you contemplate any gas or water problems in the dual completions?

A I do not, there are other wells producing in the area and so far none of these zones have shown any problems of water encroachment.

Q Can you state your opinion as to whether or not the proposed dual, particularly the 1½, whether or not such will efficiently produce and drain the reservoir?

A I believe it will. We have the calculations here which were furnished me by the Continental Company. The pump department, which shows the equipment we propose maybe operated at three different pump speeds. We have calculated it first of all on twenty strokes a minute and about a third of the way up on the right hand side you will find the volume of fluids that may be

moved. It is a volume fluid that moved at twenty strokes a minute, which is 56.5 gallons a day. The second indication 16½, which is 45 gallons a day and 14 strokes a minute, we will be able to move 38 2/10 barrels a day of production. These calculations are on pumping of water from the pump, which we have taken into account of any energy from, deprived from the gas and certainly water. It takes more energy to move water than of course oil. So we conclude that if we can move this volume of fluid that we can adequately drain that reservoir of any amount of allowable that may be established for these zones in the foreseeable future.

Q Did you state whether or not this proposed dual completion is in keeping with the principles of conservation?

A One of the motivating facts as far as we are concerned at the time in the course of conservation is that it is more economical to install this type of equipment thereby having a better atmosphere for dual completions and for completing more zones in this field. By this type of installation we can offer the other type that is available. We can save $3,842.81 on the cost of tubing itself, which will amount to 89.45% saving between the two installations, and the two installations I am speaking, we can run two strings of high, dry type C5 tubing or we can run these two strings that we have been discussing, which is a string of 2 3/8 and string of 1 1/2 textol.

Q Will the tubing completion in any manner impair or injure correlative rights in your opinion?

A I do not think so.

Q The witness does have logs with him, is it the desire of the Examiner these be introduced and made part of the record?

MR. NUTTER: I think we will, I would like to see the logs.

MR. McKENNA: May I have number one marked and received?

MR. NUTTER: Was this a package number one?

MR. McKENNA: Yes, it includes the letter for the retrievable packer and the pumping information.

MR. NUTTER: Exhibit Number 1 comprises a diagrammatic sketch brochure, the Brown by-pass packer and includes three calculations of pump capacity for the 1 1/4-inch pump and a letter from Chambers & Kennedy?

MR. McKENNA: Yes.

MR. NUTTER: This exhibit will be admitted into evidence.

Q (By Mr. McKenna) Mr. Alexander, can you comply with the request of the Examiner as to the logs and make available to the Examiner for inspection?

A I have a log run by the Western Company, a gammatron log a simultaneously radioactive in it. We have marked off in red showing the top and bottom of the two respective pays and the perforations that now exist in the Penrose pay.

MR. NUTTER: Do you want this identified as Exhibit Number 2?

MR. McKENNA: Yes.

(Whereupon, Applicant's Exhibit Number 2 was marked for identification.)

MR. NUTTER: The porosity is indicated in red?

A Yes.

MR. NUTTER: Very good. Do you have anything further?

MR. McKENNA: No, I move that Exhibit Number 2 be marked for identification and be admitted into evidence.

MR. NUTTER: Exhibit Number 2 will be admitted. Does anyone have any questions of the witness? Mr. Payne.

BY MR. PAYNE:

Q Mr. Alexander, do you have actual or approximate gas-oil ratios for both zones?

A We have not taken a gas-oil ratio of cores of the upper zone because it has not been completed. The lower zone produces the gas-oil ratio of about 315.

Q Are offset wells completed in the upper zone that you have any information on relative to gas-oil ratios?

A We have our Well Number 1 which is about a half mile to the south, although it is a poor interval and it has a gas-oil ratio of 218.

Q Now, what were the gravities, Mr. Alexander?

A They run in the neighborhood of around 28 degrees API.

Q Both zones?

A That is, would be the upper zone or the Yates, and the lower zone it runs around 30½.

Q Now, what will the differential pressure be at the packer?

A I anticipate very little differential pressure in view of the fact both zones are very weak, as none of the wells in the area flow to my knowledge.

Q So you are going to pump both zones, is that right?

A That is correct.

Q This pump packer you propose to use, did you take a pressure leakage test?

A Yes, sir.

Q How do you unseat this type of packer?

A Picking up on the tubing.

Q You say it is more efficient in the matter of pumping. Would you say it is as efficient in separating the two sources of supply?

A I think it is. A hook wall packer is a standard piece of equipment in the oil field and has been used for years and years. I think the primary advent of a wire line or a permanent type packer has been in deep well completions. That is why if your tubing is over stressed in the event you want to retrieve it and for that reason a permanent type packer was primarily developed, this type of packer has been in use in the oil field for thirty or forty years.

Q And is your hole big enough to run parallel strings of tubing, rather than utilizing the packer?

A I don't follow your question.

Q Is your hole big enough to run parallel strings of tubing and cement them in the common well bore without utilizing a packer?

A They are. I do know, I think we would want to cement our tubing in the hole for the fact we may want to retrieve it and we can clean out these zones of cores. Once you run tubing and cement it would be impossible then to do any remedial work on either zone.

Q You did consider the possibility of the other type completion?

A I think the type completion, are we speaking of the type of completion that was just discussed?

Q Yes, sir.

A Of course, in that type of completion you do not have casings in the holes such as we have here.

Q This well has already been completed and has the casing cemented in?

A This well has been producing for about a year now.

Q And the lower zone was sand fracked?

A That is correct.

Q You feel from time to time you may have to stimulate?

A The possibility in any sand fracking operation that the sand may come back on you and you should leave your seal in the position to clean out of the well bottom, it can build up to the point it will restrict production.

BY MR. PORTER:

Q What is the capacity of your well? What is the producing

capacity of the present well which is completed in the Shugart pool?

A That lower zone, or the Penrose, will presenty make 48 barrels per day.

Q You don't have it out open of the Grayburg, the Queen?

A Open in the interval from 3448 to 3862.

Q It produces how much?

A 48 barrels a day.

Q Been on production about a year?

A Yes, sir.

Q Isn't that considered pretty good in this area?

A A very good well. The fact of the matter, our Well Number 3 to the east, we feel like it will be equally as good, and some wells to the north and northeast that are very good wells.

Q Do you contemplate duals on the other wells?

A We contemplate the possibility of dualing our Number 3. Our Number 1 to the half mile to the south does not have the interval in that well, we do not contemplate a dual on it.

Q What kind of show did you get in the Yates?

A In this particular Yates we made 16 gallons per hour, the Baylor test.

Q I think the pressure there is somewhere near the one you quoted the gas-oil ratio of 215 or 240 or something like that?

A The gas-oil ratios generally in this area will all run in the magnitude of less than 400.

MR. PORTER: Thank you.

BY MR. NUTTER:

Q Mr. Alexander, do I understand correctly that the gas venting feature of this Brown packer is sufficient that the gas comes out of the casing tubing annulus below the packer comes up through the packer and then into the 2 3/8-inch tubing?

A That is correct. And therefore the gas will be produced with the oil as it would be whether it was flowing on pumped through the pump by venting it above the packer and without having to handle through the pump, you should have less trouble.

Q And the casing tubing annulus on the upper zone will be a conventional type of annulus that can be vented?

A That is correct.

Q Now, these calculations that you gave for the capacity of the 1 1/2 and 1 1/4 pumps of various strokes per minute are lift or for the total depth?

A Pumping water from total depth, 2600 feet.

Q What is the producing history of the well Yates Sand in this area?

A Hasn't been any water encroachment.

Q How long long has this area been on production?

A Our Number 1 Well has been on production, let's see, about eight months, I believe it has been in the Yates pay. There are some other wells, Mr. O'Neill had a well over to the west of us that was dualed, I believe about a year and a half ago and they have, although it has been a weak well, have not experienced any

trouble with water.

Q Are they making water?

A No.

Q No water at all?

A No. To the north of us a piece there are a couple of Yates wells, they have not shown any water trouble. Our Number 1 Well is to the closest well that we have any history from the Yates.

Q And it produces oil only?

A That is correct. The reason we have shown these pumping productions, these pumping volumes at 20 barrels, I mean at 20 strokes per minute, we would be able to raise 56 barrels of fluid which means 50 water and oil and recover the allowable as it now exists to show that we can adequately drain that reservoir.

Q You got the capacity here for 56½ barrels a day, but if you went to 10 barrels of oil and 40 or 50 barrels of water you might run into some trouble. A higher water cut than that even. However, you anticipate no water difficulties in the area from the known history?

A That is correct. From the known production histories of the other wells we do not anticipate that kind of water problem.

Q Now, what size of sucker rods do you use on a pump of one half inch?

A One half inch?

Q This sheet also shows that we would only have a peak 12,100 pounds. Half inch sucker rods would carry it?

A We hit our high stress, we would be stressing our rods at 16,500 PSI and those rods are good for 29,000 PSI, so we are just hardly reaching over half the stress those rods are capable of standing at 20 strokes a minute. 20 inch stroke, if we found it necessary to raise a greater volume of fluid we can go from 26 inch to 36 inch stroke and still our stress would not exceed our 29,000 PSI.

Q These calculations are based on rather short strokes?

A Yes, they are based on the 26 inch stroke.

Q Now, you stated that the packer was released by picking up on the tubing. How is the packer set?

A We have here a little bit of a discussion here on this packer, and how it operates, of course, it has a J in it, it is operated just by opening and closing the J and reciprocate it up and down.

Q Does it have a set of slips on it?

A Yes, they are pictured in the cross section, all cut there.

Q And has a sealing rubber?

A Yes, it does.

MR. NUTTER: Are there any further questions of Mr. Alexander? If there are no questions, you may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. McKenna?

MR. McKENNA: No.

MR. NUTTER: Mr. McKenna, I would like to make one request,

we be furnished permanent type photostats of the diagrammatic sketch and also of the three calculations.

MR. McKENNA: We have the original.

MR. NUTTER: This will be identified as the exhibit then.

MR. McKENNA: All right.

MR. NUTTER: Does anyone have anything further for Case 2078? We will take the case under advisement and take Case 2077.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, LEW NELSON, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached transcript of proceedings before the Oil Conservation Commission was reported by me in stenotype and reduced to typewritten transcript by me and/or under my personal supervision and that the same is a true record to the best of my knowledge, skill and ability.

Witness my hand and seal this the 30 day of September, 1960, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Lewella F. Nelson
NOTARY PUBLIC

My Commission Expires:
June 14, 1964

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2078, heard by me on 9/21, 1960.

....., Examiner
New Mexico Oil Conservation Commission

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