CARPER DRILLING COMPANY, INC.

OIL PRODUCTION AND DRILLING

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

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

September 17, 1960

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

2078

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.

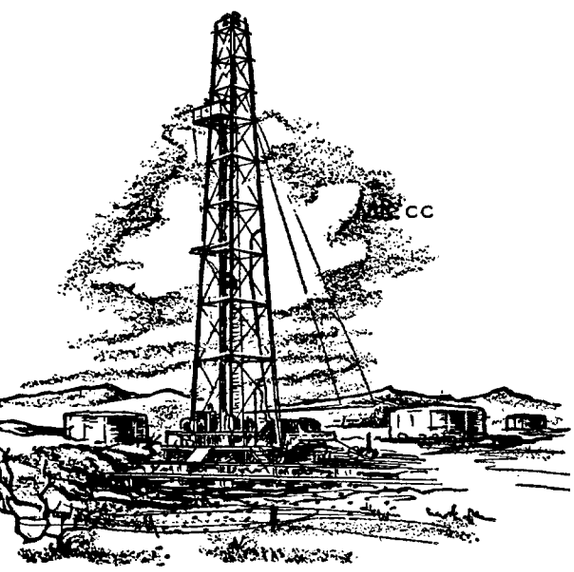
Yours very truly,

CARPER DRILLING COMPANY, INC.

Marshall Rowley

Marshall Rowley

cc



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

C. FRED CHAMBERS
W. D. KENNEDY

TELEPHONE
MU 4643

August 4, 1960

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.

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

Case 2078

COPY

August 11, 1960

Chambers and Kennedy
Suite 807
Midland 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 32, 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

one-year basis, during which time a series of carefully controlled tests were to be made to evaluate the equipment. I might add that Cities Service found it necessary to replace the first pump so tested before the year was up and was then authorized, after a third hearing, to install a second pump under similar testing requirements. Cities Service recently removed this pump after approximately six-months service. This, according to our understanding of the matter, was necessitated by failure of the equipment to adapt itself to the conditions which were encountered in the well.

Please advise us as to whether or not you wish us to docket your application for hearing.

Very truly yours,

DANIEL S. NUTTER
Chief Engineer

DSN/og

cc: Mr. Mose Armstrong
Oil Conservation Commission
Artesia, New Mexico

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

C. FRED CHAMBERS
W. D. 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: J. Davis
Joan Davis,
Production Secretary

encs.

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. E. 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: L 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 Morris
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

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

C. FRED CHAMBERS
W. D. KENNEDY

TELEPHONE
MU 3-4643

August 16, 1960

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

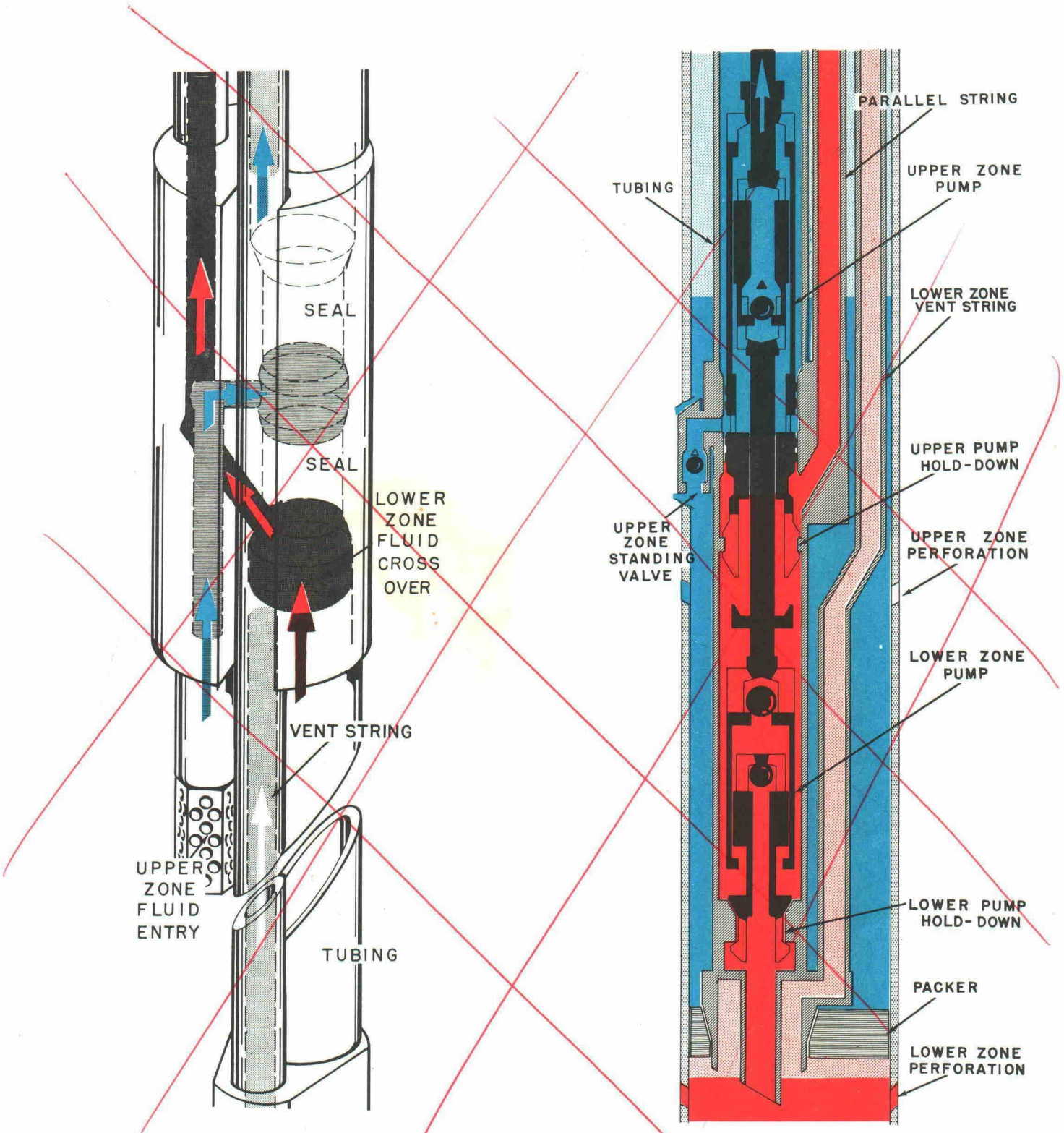
W A I V E R

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

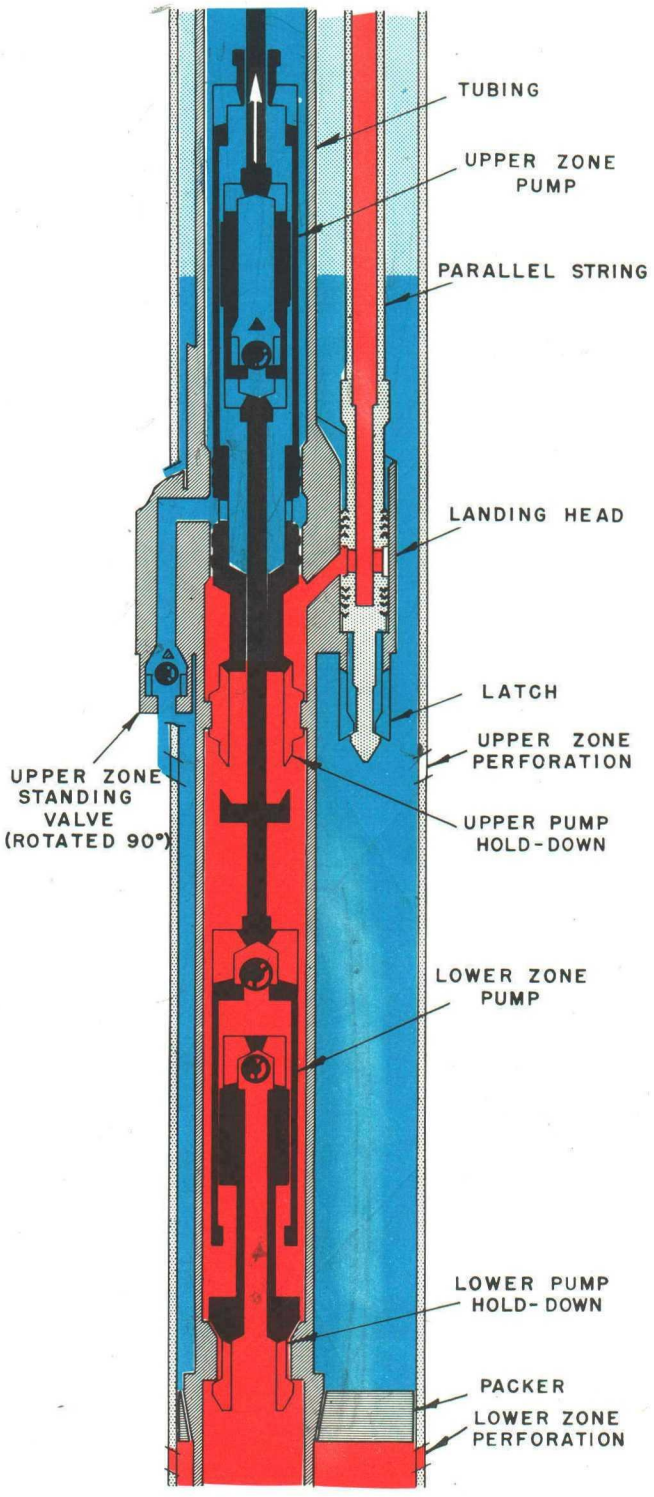
BY: _____

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



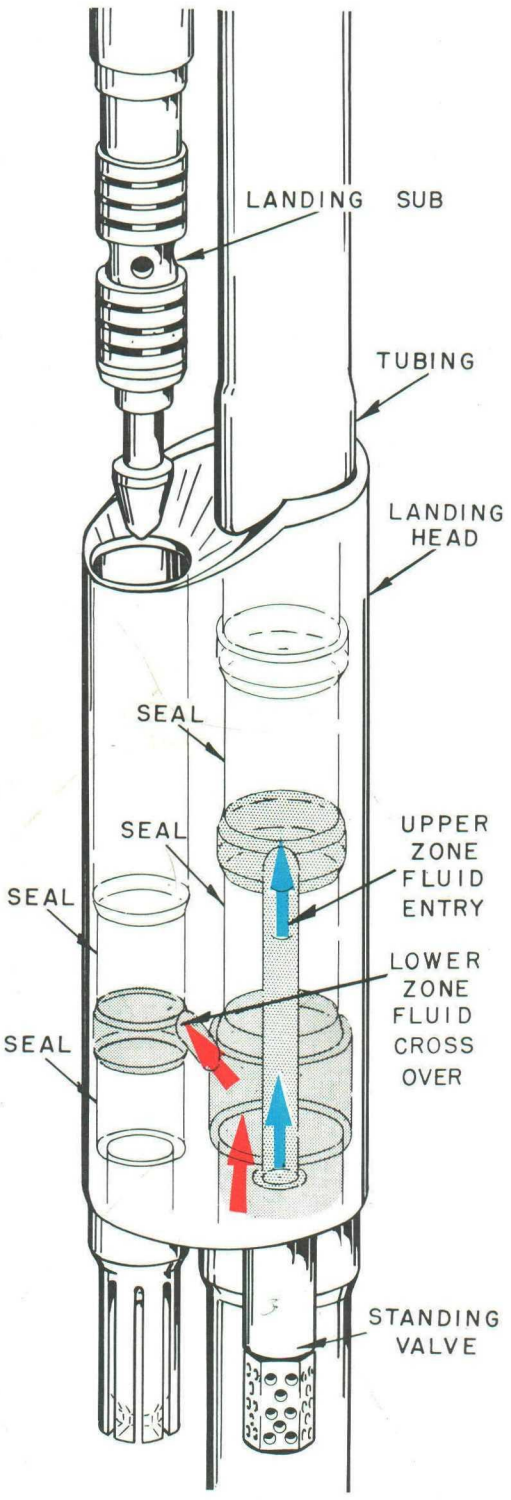
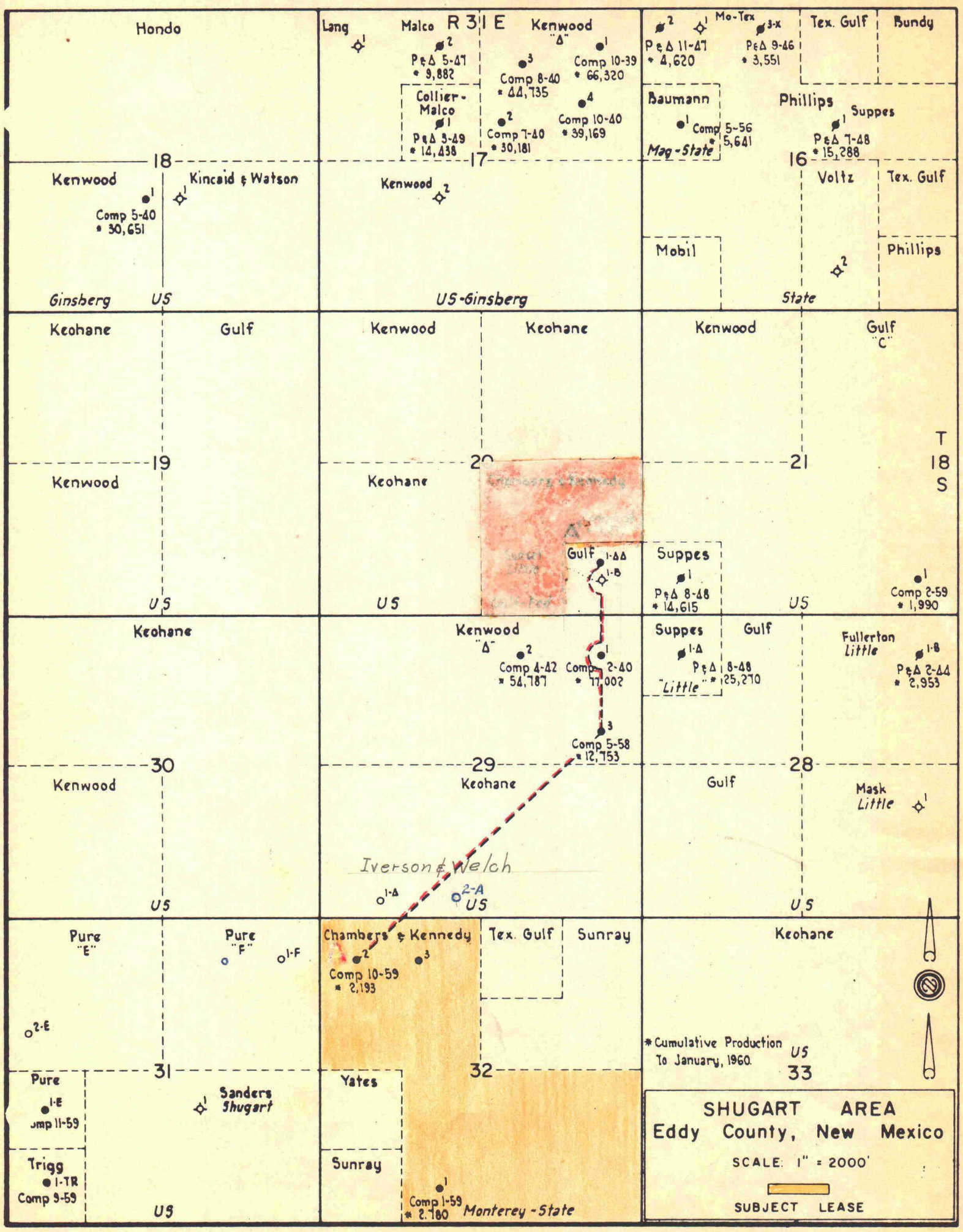


FIG. 3

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
Lang
Malco
Kenwood "Δ"
Mo-Tex
Tex. Gulf
Bundy
Pet Δ 11-47 * 4,620
Pet Δ 9-46 * 3,551
Pet Δ 5-47 * 9,882
Comp 8-40 * 44,735
Comp 10-39 * 66,320
Comp 10-40 * 39,169
Comp 7-40 * 30,181
Collier-Malco
Pet Δ 3-49 * 14,438
Baumann
Comp 5-56 * 5,641
Mag-State
Phillips
Suppes
Pet Δ 7-48 * 15,288
18
17
16
Kenwood
Kincaid & Watson
Comp 5-40 * 30,651
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-ΔΔ
1-B
Suppes
Pet Δ 8-48 * 14,615
Comp 2-59 * 1,990
US
US
US
Keohane
Kenwood "Δ"
Comp 4-42 * 54,787
Comp 2-40 * 17,002
Comp 5-58 * 12,753
Suppes
Gulf
1-Δ
Pet Δ 8-48 * 25,270
"Little"
Fullerton Little
1-B
Pet Δ 2-44 * 2,953
30
29
28
Kenwood
Keohane
Gulf
Mask Little
Iverson & Welch
1-Δ
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.
US
31
32
33
Pure
1-E
Comp 11-59
Sanders Shugart
Yates
Sunray
Trigg
1-TR
Comp 9-59
Comp 1-59 * 2,780
Monterey-State
US
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 3-4643

SEPTEMBER 19, 1960

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 A. Mullen & Kennedy Lease _____ Well # _____ Date 9-19-60

Plunger 1½ Stroke 26 SPM 20 Pump Depth 7600 Desired Prod. 200# Impulse Factor 1.15

1½ ~~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
1½ ~~5/8"~~	~~(1.14)~~ 12	(7600)	(.875) =	(1640 lbs)	(1.15) =	1880 lbs	197
			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) (6.07)^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)

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

Non-Synchronous Pumping Speeds (Desirable) _____ _____ SPM

Remarks: _____ ILLEGIBLE

FORM 832-R-1, 12-57

WELL INSTALLATION WORK SHEET

Company Aluminum & Chemicals Lease _____ Well # _____ Date 9-11-60

Plunger 1 1/4" Stroke 26 SPM 16.5 Pump Depth 7000 Desired Prod. _____ Impulse Factor 1.10

1/2" ~~5/8"~~ 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" ~~5/8"~~	(~~1.14~~) 1.7	(2600)	(.875) =	(1640 lbs)	(1.10) =	1804 lbs	
				Load on top 5/8" Rods	=	3184 lbs ÷ ~~.307~~ .197 =	16,700 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 = 3184 lbs

Minimum Polished Rod Load: MPRL = EW_r (1.87 - F) = (1640) (.77) = 1270 lbs.

Load Ratio: $\frac{(PPRL - MPRL)}{(PPRL)}$ (100) = $\frac{(1914)}{(3184)}$ (100) = 60 %

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) (_____) (_____)^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) (16.5) = 45 bbls/day

Production at 80% Pump Efficiency: .80 (Theo. Prod.) = .80 (45) = 36 bbls/day

Counterbalance Effect: W_r + $\frac{\text{Fluid Wt.}}{2}$ = 1660 + 640 = 2330 lbs

Peak Torque: (PPRL -CB) (S/2) = (854) (13) = 11,100 In. lbs.

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

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

Non-Synchronous Pumping Speeds (Desirable) _____ SPM

Remarks: _____ ILLEGIBLE

FORM 832-R-1, 12-57

WELL INSTALLATION WORK SHEET

74

20 · 1.05

Company Pluncher & Kennedy Lease _____ Well # _____ Date 1-19-60

Plunger 1 1/2" Stroke 26" SPM 14 Pump Depth 2600 Desired Prod. 14BPD Impulse Factor 1.05

1/2" ~~5/8"~~ 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) = 1300 lbs.

SIZE	WT/FT	LENGTH	BUOY.	EFFECTIVE WT OF RODS	F	STRESS
1/2 ~~5/8"~~	(.72)	(2600)	(.875) =	(1640 lbs)	(1.07) = 1750 lbs	
				Load on top 1/2 ~~5/8"~~ Rods	= 3130 lbs ÷ .197 ~~.307~~ =	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) = 1312 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

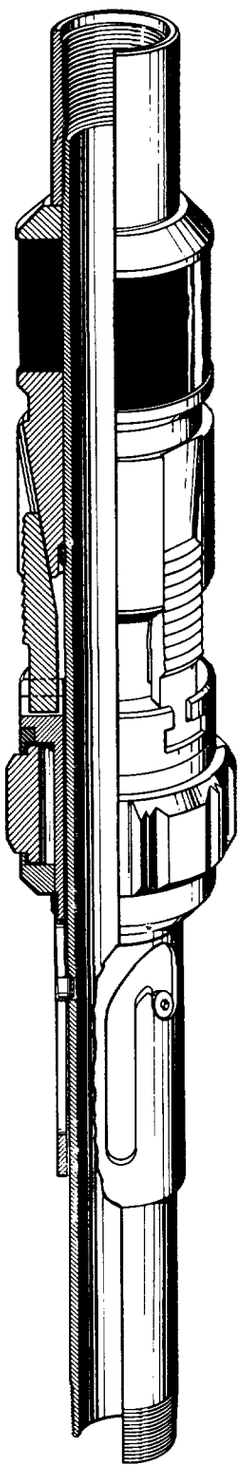
Non-Synchronous Pumping Speeds (Desirable) W - 12.5 - 20 _____ SPM

Remarks: _____

ILLEGIBLE

FORM 832-R-1, 12-57

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.

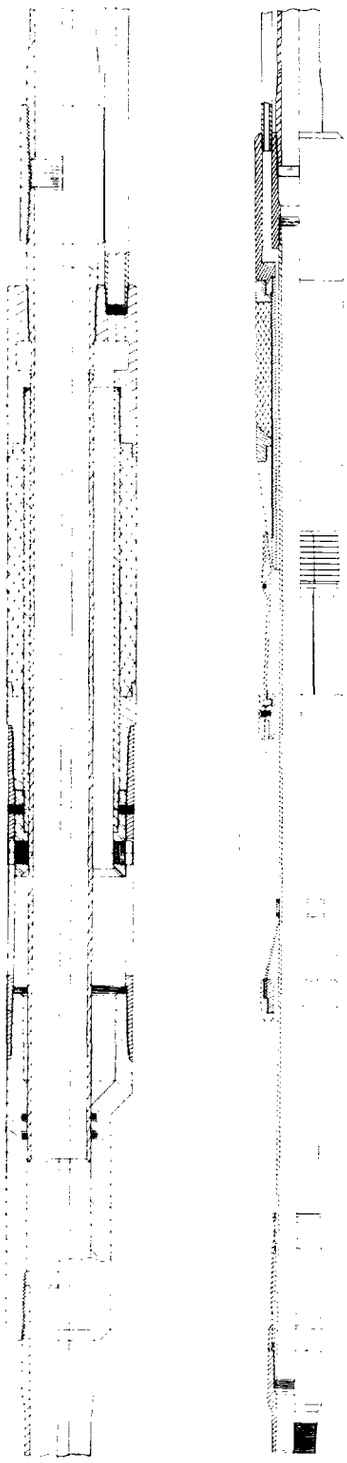
Hold left-hand torque while lowering tubing two or three inches to clear jay pin from short slot, then pick up to setting weight, and release torque.

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.

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	44	3	2	½ Line Pipe	....	6¼
2½ x 7	7	26	5¾	58	3	2 7/16	½ Line Pipe	....	7
2½ x 7	7	32-35	5⅝	58	3	2 7/16	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	2 7/16	½ Line Pipe	63	8½
2½ x 7	7	26	5¾	92	15	2 7/16	½ Line Pipe	60	8½

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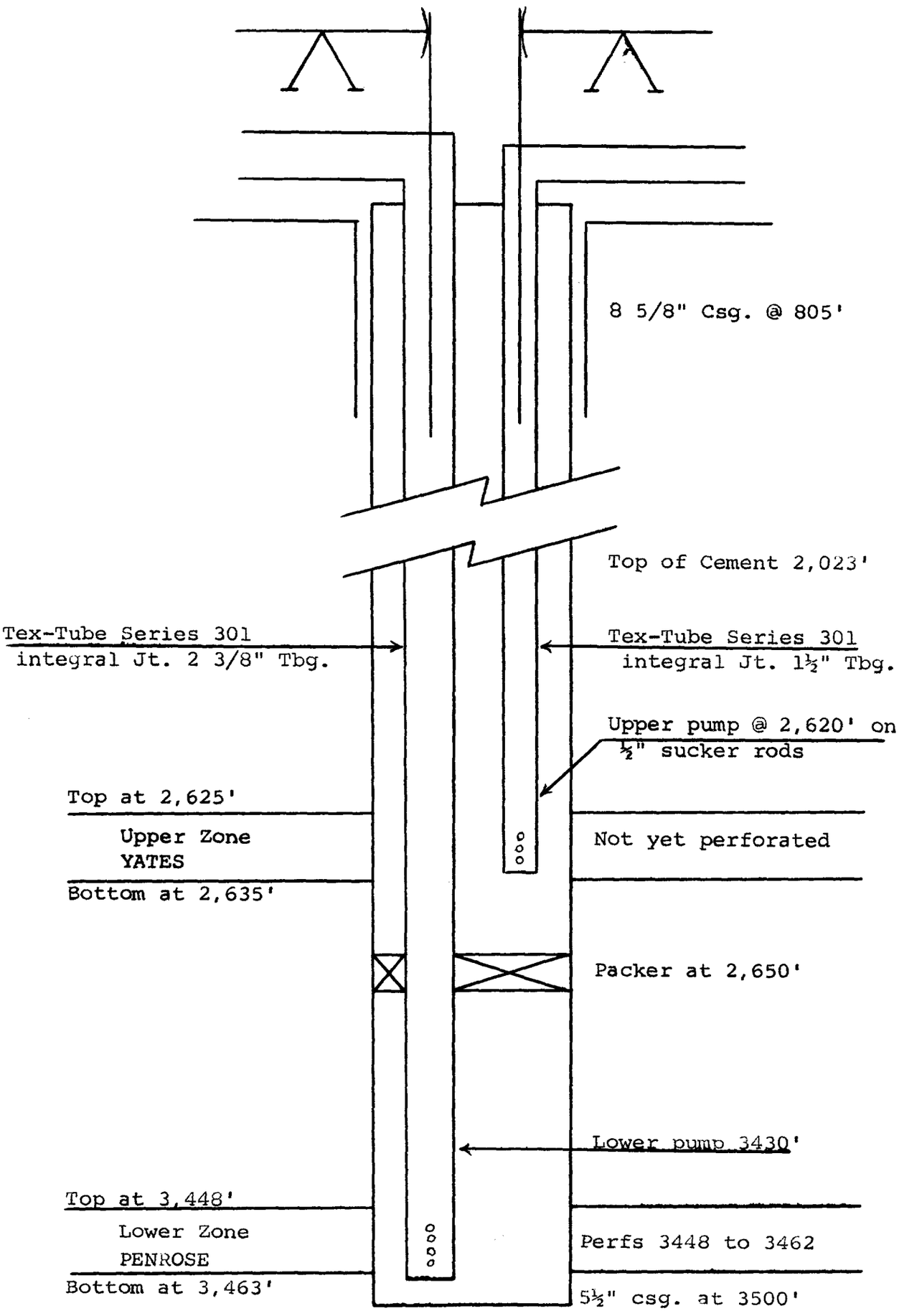
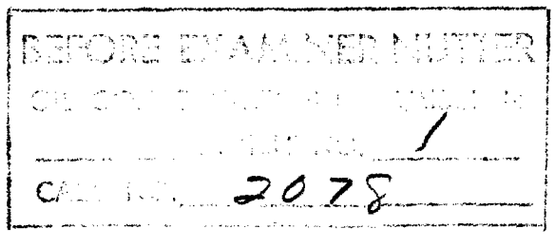
DIAGRAMMATIC SKETCH OF DUAL COMPLETION INSTALLATION

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 EXAMINER HUTTER
1
CASE NO. 2078

THE WESTERN COMPANY

GAMMATRON

Simultaneous Radioactivity Log

COMPANY: CHAMBERS & KENNEDY
WELL: MONTEREY STATE # 2
FIELD: CULWIN
COUNTY: EDDY STATE: N.MEX
LOCATION: 660' FN & WL'S. SEC. 32. T-18-S. R-31-E

COMPANY: CHAMBERS & KENNEDY
WELL: MONTEREY STATE # 2
FIELD: CULWIN
COUNTY: EDDY STATE: NEW. MEX
LOCATION: 660'FN & WL'S, SEC. 32, T-18-S, R-31-E

LOCATION

FILE NO.
LOG NO. 95940

LOG MEAS. FROM: DERRICK FLOOR (G.L.+3') ELEV.
DRLG. MEAS. FROM: GROUND LEVEL ELEV.
PERM. DATUM: GROUND LEVEL ELEV.

TYPE OF LOG	G/R	N/N		
RUN NO.	1-NW	1-NW		
DATE	9-23-59	9-23-59		
TOTAL DEPTH (DRILLER)	3501	3501		
EFFECTIVE DEPTH (DRILLER)	3493	3493		
EFFECTIVE DEPTH (WESTERN)	3492	3492		
TOP OF LOGGED INTERVAL	SURF.	SURF.		
BOTTOM OF LOGGED INTERVAL	3479	3490.5		
TYPE OF FLUID IN HOLE	OIL	OIL		
FLUID LEVEL				
SOURCE STRENGTH & TYPE		S10A3		
SOURCE SPACING		13.5		
DETECTOR CLASS	SCINT.	SCINT.		
DETECTOR TYPE	D4G1	D6N1		
DETECTOR LENGTH	4"	4"		
O.D. OF INSTRUMENT IN.	3 5/8	3 5/8		
TIME CONSTANT SEC.	2.0	2.0		
LOGGING SPEED FT./MIN.	30	30		
STATISTICAL VARIATION	RECORDED	RECORDED		
SENSITIVITY REFERENCE	C-933	D-368		
RECORDED BY	KIMBALL			
WITNESSED BY	MR. BERRY			

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 2126

CASING RECORD ___ INTERVAL ___

BIT SIZE	CASING	WT.-LB.	FROM WELL RECORD	FROM RA LOG
			TO	TO
	5 1/2"		SURF. TO 3493	TO
			TO	TO
			TO	TO