INTER-OFFICE CORRESPONDENCE

Texas Pacific Oil Company, Inc.

To . Charles L. West

Date . December 9, 1969

From . Tom P. Frizzell

Subject . Possible Workover Zones in TPOC, Inc.
#2 & #4 State "T" wells, Section 6,
T-16-S, R-36-E.
Lea County, New Mexico

RECOMMENDATION:

It is recommended the interval 10,350 to 10,370' be production tested in the TPOC, Inc. #4 State "T".

PURPOSE:

The purpose of this report is to make recommendations as to the disposition of two (2) wells that are shut in on the State "T" lease.

DISCUSSION:

The two shut in wells are located in the Townsend Wolfcamp Pool. This report will review drillstem tests, production tests, and completions that have been made in wells in zones or formations other than the "Main Townsend Pay".

San Andres

Shows of oil have been reported in the San Andres Formation in samples. There was an unsuccessful attempt to complete in this formation in the J. W. Brown #1 State (Section 4, T-16-S, R-35-E). Only slight shows of oil were reported after treating the well with acid. The Micro-log indicates porosity in the TPOC, Inc. #2 State "T" through the interval tested in the Brown well.

Due to the poor results of the tests on the Brown well, a re-completion in the San Andres is not recommended.

During drilling of the #2 TPOC State "T" circulation was lost at 6210'. A recommendation was made to watch this zone in subsequent wells. The samples examined through this zone in the #3 State "T" did not have stain or fluorescence through this interval. On this basis, no recommendation can be made for an attempted re-completion in this zone.

Abo

A zone within the Abo Formation was perforated in two wells by Humble prior to abandonment. These were the #1 & #2 Townsend in Section 9, T-16-S, R-35-E. The validity of these tests is questionable due to a lack of cement behind the casing; however, no show of oil was reported after acidizing each well. From available information, this zone has not been tested in any other well. There is no data that indicates this zone would be productive.

Wolfcamp

The upper section of the Wolfcamp (9650-9900) on TPOC, Inc. #2 State "T" on cross-section was drillstem tested in Pan American #1 State "AG" (Section 10, T-16-S, R-35-E), and in the Cabot Carbon #1 State "F" (Section 4, T-16-S, R-35-E). In each of the wells drillstem tests recovered mud with final shut-in pressures of less than 300 psi. No test is recommended for this zone.

The only possible workover behind pipe in the shut-in wells is the interval marked "zone of interest" on the cross-section. Production from this zone and the production test in the #2 State "T" is shown on the cross-section. The production from the two wells on the cross-section is marginal to uneconomical. This is commonly found in "Wolfcamp Stringers" in this area. It will be noted, however, that in many instances these "Wolfcamp Stringers" have been prolific producers. Although the risk will be high (.3 to .4) it is recommended that the interval 10,350 to 10,370' be tested in the #4 State "T" prior to plugging this well.

CONCLUSIONS AND RECOMMENDATIONS:

In the event that this zone proves to be good in the #4 State "T" a re-evaluation of the production test in the #2 State "T" can be made. It is believed this zone is the only zone that offers a possible workover. Hence, after this zone is depleted the only possibility left prior to plugging these wells would be a secondary recovery program within the depleted "Townsend Pay" interval.

Tom P. Frizzell

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TPF:flh

J. E. Bagwell — Midland, Texas — September 26, 1958

Nolan Hirsch

Fort Worth, Texas

Completion Report on State "T" #4
Townsend Pool
Lea County, New Mexico

Location:	4620' FSL & 1885' FWL, Section 6, T-16-S, R-36-E
Spud Date:	June 8, 1958
Completion Date:	August 6, 1958
Contractor:	Cactus Drilling Company
Elevation:	3969' DF
Total Depth:	10,728 feet
Casing:	13 3/8" @ 379' w/425 sx. 8 5/8" @ 4750' w/1707 sx. 5 1/2" @ 10,727' w/300 sx.
Results:	IPF 168 BO in 24 hours through an 18/64" choke with 790 MCFG, TP 625#, gravity 40°.

FORMATION TOPS

Formation	Electric Log Depth-Datum
Anhydrite	Not logged
Yates	" "
Queen	" "
San Andres	" "
Glorieta	6335(-2366)
Tubb	7457(-3488)
Abo	8210(-4241)
Wolfcamp	9670(-5701)
"XX"	9983(-6014)
"III Lime"	10501(-6532)
Total Depth	10728(-6759)

Nolan Hirsch
September 26, 1958

STRUCTURAL RELATIONSHIP TO NEARBY WELLS

FORMATION	STATE "T" #4	STATE "T" #3	STATE "T" #2
Glorieta	-2366	-2373	-2344
Tubb	-3488	-3510	-3489
Abo	-4241	-4255	-4237
Wolfcamp	-5071	-5672	-5672
"XX"	-6014	-6000	-5990
"II Lime"	-6532	-6525	-6514
Top Pay	-6638	-6642	-6626
Total Depth	-6759	-6768	-6722

SAMPLE ANALYSIS

DEPTH	FORMATION & LITHOLOGY	% POROSITY	TYPE POROSITY	% STAIN	REMARKS ON PAY POSSIBILITIES
10580-10590	Penn. lime	v/slight trace	PP Sol.	V/slight trace	Possible but doubtful since Microlog indicates no permeability
10620-10710	Penn. Lime	Trace to v/slight trace	PP Sol.	Trace	Completed from this section.

ELECTRICAL LOG ANALYSIS

A complete electrical log analysis was not made since no neutron curve was run by which per cent porosity may be calculated. The following are zones exhibiting permeability on the microlog.

DEPTH	FORMATION & LITHOLOGY	% POROSITY	WATER SATURATION	REMARKS ON PAY POSSIBILITIES
10607-10628	Penn. Lime	Not calculated	Not calculated	Completed from portions of these intervals. 37' net pay(not all perf'd)
10630-10635	Penn. Lime	Not Calculated	Not calculated	
10646-10650	" "	" "	" "	" "
10652-10656	" "	" "	" "	" "
10687-10690	" "	" "	" "	" "

Core #2	10,599	-	10,649	recovered 50 feet
	10,599	-	608	tan finely crystalline fossiliferous slightly fractured lime, good vuggy, solution and pinpoint porosity, good fluorescence and stain, vuggy from 10599 to 601
	10,608	-	613	lithology same, fair solution and pinpoint porosity fair fluorescence to good fluorescence and stain on fractures
	10,613	-	615	lithology same, fair-good solution and pinpoint porosity, good fluorescence and stain
	10,615	-	629	tan-brown finely crystalline-dense fossiliferous lime slightly fractured, some fluorescence along fracture lines
	10,629	-	630	tan finely crystalline fractured lime, trace pinpoint porosity, fluorescence and stain on fracture faces
	10,630	-	633	tan finely crystalline-dense fractured lime, no show
	10,633	-	636	tan finely crystalline fossiliferous fractured lime, fair-good solution porosity, fair-good fluorescence and stain
	10,636	-	641	tan-brown finely crystalline-dense slightly shaly fractured lime, no show
	10,641	-	642	tan finely crystalline fossiliferous lime, fair solution porosity, trace-fair fluorescence and stain
	10,642	-	647	tan-brown finely crystalline-dense fossiliferous slightly fractured lime, no show
	10,647	-	649	very broken. lithology same as above, trace fluoresence
Core #3	10,649	-	10,692	recovered 36 feet
	10,649	-	10,692'	grey dense shaly lime with few scattered vertical fractures and very scattered solution porosity throughout, no shows.

ELECTRICAL LOG ANALYSIS

DEPTH	FORMATION & LITHOLOGY	% PORO.	WATER SATURATION	REMARKS ON PAY POSSIBILITIES
6210-44	L/San Andres dolomite	N O T	C A L C U L A T E D	Zone should be closely investigated in next well.
10,599-622	Penn, lime	"	"	Producing Zone
10,640-646	" "	"	"	Producing Zone

Nolan Hirsch 958

January 13, 1958

SAMPLE ANALYSIS

DEPTH	FORMATION & LITHOLOGY	% POROSITY	TYPE POROSITY	% STAIN	REMARKS ON PAY POSSIBILITIES
6200- 6250	L/San Andres dolomite	Spls. too fine to determine		10%	Interesting zone. Lost circ. @ 6210' Drilled w/water.
10553-599	Penn. Lime	S E E	C O R E #1		Poor
10599-649	Penn. Lime	S E E	C O R E #2		Producing Zone

STRUCTURAL COMPARISONS

The -TP- N. M. State #2 "T" shows the following structural relationship to nearby wells:

Formation	-TP- N. M. State #1 "T"	Austral Oil State #3-"B"
Anhydrite	10' high	no logs
Yates	9' low	" "
Queen	2' low	" "
San Andres	8' low	" "
Glorieta	15' high	3' low
Tubb	10' high	3' high
Abo	6' high	5' low
Wolfcamp	4' low	3' low
"XX" Marker	10' low	1' low
3rd Penn lime	13' low	10' low

DISCUSSION

A slight show was encountered between 6200-6250 feet. Circulation was lost at 6210' and samples were so fine that this zone could not be evaluated properly. The Microlog on this well shows 35 feet of good porosity and it is interesting to note that this zone did not occur in our #1 "T", one location south, or in the Austral #3-B State, one location to the west.

On future wells in this area it is recommended that mud of sufficient quality be used through this zone in order to evaluate it more closely.

The following Schlumberger logs were run:

Gamma Ray	surface	to	total depth.
Electric Log	4753	to	total depth.
Microlog	5300-5700, 6100-6500, 10,000	to	total depth

Net pay thickness is 29 feet in this well.

Wm. J. Smitherman

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WJS/flh

cc: J. R. Teague
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