

STATE OF KANSAS - CORPORATION COMMISSION  
 ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

FORM NO. 8-7-83

15-119-20658-00-00

TYPE TEST:  Deliverability  Open Flow TEST DATE: 5-15-86

COMPANY: Zinke & Trumbo, Ltd. LEASE: Fincham WELL NO.: 2-31

COUNTY: Meade LOCATION: 2322 FWL-330 FSL SECTION: 31 TWP: 34S RND: 26W. ACRES:

FIELD: Fincham/O'Brien Barby RESERVOIR: Morrow PIPELINE CONNECTION: Northern Natural Gas

COMPLETION DATE: 6-22-84 PLUG BACK TOTAL DEPTH: 6243 PACKER SET AT:

CASING SIZE: 4 1/2" WT.: 10.5 LD.: SET AT: 6297 PERF.: 5884 TO: 5912

TUBING SIZE: 2 3/8" WT.: 4.7 LD.: SET AT: PERF.: TO:

TYPE COMPLETION (Describe): Single TYPE FLUID PRODUCTION: Condensate

PRODUCING THRU: Tubing RESERVOIR TEMPERATURE: 151° BAR. PRESS - P<sub>a</sub>: 14.4 Psia

GAS GRAVITY - G<sub>g</sub>: .7281 % CARBON DIOXIDE: .15 % NITROGEN: 3.5 API GRAVITY OF LIQUID: 73

VERTICAL DEPTH (H): 5898 TYPE METER CONN.: Flange (METER RUN) (PROVER) SIZE: 2

SHUT-IN PRESSURE: SHUT IN 5-12 19 86 AT 12:00 (AM)(PM) TAKEN 5-15 19 86 AT 12:00 (AM)(PM)  
 FLOW TEST: STARTED 5-8 19 86 AT 12:00 (AM)(PM) TAKEN 5-12 19 86 AT 12:00 (AM)(PM)

OBSERVED DATA

DURATION OF SHUT-IN: \_\_\_\_\_ HR.

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psia	DIFF. in. (h <sub>w</sub> )(h <sub>d</sub> )	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASED WELL-HEAD PRESS.		TUBING WELL-HEAD PRESS.		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P <sub>w</sub> )(P <sub>e</sub> )(P <sub>c</sub> ) psia	psig	(P <sub>w</sub> )(P <sub>e</sub> )(P <sub>c</sub> ) psia		
SHUT-IN						1530		1535		72	
FLOW	1.250	486	62	90°		1326		1298		120	30.3 BL Cond.

RATE OF FLOW CALCULATIONS

COEFFICIENT (F <sub>1</sub> )(F <sub>2</sub> ) Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_{max}h_w}$	GRAVITY FACTOR %	FLOWING TEMP. FACTOR F <sub>L</sub>	DEVIATION FACTOR F <sub>pv</sub>	RATE OF FLOW R Mcfd	GOR	G <sub>m</sub>
8.329	500.4	176.14	1.172	.9723	1.055	1764	58	.6919

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>e</sub>)<sup>2</sup> = 2385.2 ; (P<sub>w</sub>)<sup>2</sup> = 1796.7 ; P<sub>d</sub><sup>2</sup> = 86.7 % (P<sub>c</sub> - 14.4) + 14.4 = 1544.4 ; (P<sub>e</sub>)<sup>2</sup> = 0.207 ; (P<sub>d</sub>)<sup>2</sup> = \_\_\_\_\_

(P <sub>e</sub> ) <sup>2</sup> - (P <sub>d</sub> ) <sup>2</sup>	(P <sub>e</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	$\frac{P_e^2 - P_d^2}{P_e^2 - P_w^2}$	LOG [ ]	"n"	n x LOG [ ]	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
2385	588.5	4.0526763	.6077419	.903	.548791	3.5382698	6242

OPEN FLOW 6242 Mcfd @ 14.65 psia DELIVERABILITY Mcfd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct.

Executed this the 18th day of May, 1986.

Witness (if any)  
 Richard W. Lacy  
 For Commission

*Reed Hill*  
 For Company  
 Checked by

# CROWN CONSULTING, INC.

For Drilling & Completion Reports, Workover Jobs and Additional Information on Well

Company: Zinke & Trumbo, LTD Well: FINCHAM #2-31 County: Meade Co., KS

Date	Time	Detail Work Done
10/30/84		SICP 1100# - <del>SITP 1700#</del> - Moved Patrick Well Service, rig #19, to location and rigged up - Hooked up flowline - Blew well down - Released packer to kill well - Pulled wellhead - Installed Acme BOP - Well started flowing - Flowed 4 hrs - Last hr, put on 3/4" choke - CP 100# - FTP 100# - Estimated 960 mcf - Shut well in for night - TC \$1700
10/31/84		SICP 1400# - SITP 1650# - Rigged up Western Company - Killed well with 88 barrels 2% KCL water - Pulled tubing and packer - Rigged up Western Company - Treated well using 20,000 gallons Polaris-40 gelled water and 35,000# 20/40 sand - Pumped as follows: 6000 gallons pad pumped at 23 BPM at 1250# - 3500 gallons with 1 ppg sand pumped at 23 BPM at 1200# - 3500 gallons with 2 ppg sand pumped at 23 BPM at 1250# - 3500 gallons with 3 ppg sand pumped at 23 BPM at 1300# - 3500 gallons with 4 ppg sand pumped at 23 BPM at 1350# - 4000 gallons 2% KCL water flush pumped at 23 BPM at 1650# - ISDP 900# - In 15 minutes, 500# - Have 571 barrels load to recover - Average 23 BPM at maximum pressure 1650#, minimum pressure 700#, average pressure 1300# - Shut well in - In 2 hrs, SICP 0# - Ran 1-25/32" seating nipple and 178 joints 2-3/8" tubing - Pulled BOP - Installed wellhead - Have seating nipple at 5839' - Shut well in for night - DC \$11,180 - TC \$12,880
11/1/84		SICP vacuum - SITP light blow - Rigged up to swab test - Beginning FL 1200' - Swabbed 27 BF - Well kicked off and started flowing - Installed 1/2" positive choke - At 11:00 am, FTP 320# - CP 0# - Bringing back heavy mist of fluid - At 3:00 pm, FTP 675# - CP 350# - Heavy mist of fluid - Small trace of sand - At 5:00 pm, FTP 650# - CP 450# - Shut well in to change choke nipple from 1/2" to 3/8" - In 5 minutes, SITP 1300# - Opened well back up - Left flowing to pit overnight - At 6:00 pm, FTP 1125# - CP 825# - Recovered approximately 175 BW - DC \$1586 - TC \$14,466
11/2/84		SITP 1500# - SICP 1500#
11/3/84		SITP 1625# - SICP 1625# - At 3:00 pm, <del>SITP 1650#</del> SICP 1650#