

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

FORM O-2  
8-7-58

15-005-20049-0000

TYPE TEST:  Deliverability  Open Flow TEST DATE: 9/15/89

COMPANY: Theodore I. Leben & Associates LEASE: Page WELL NO.: #1  
 COUNTY: Atchison LOCATION: N/2 NE/4 SECTION: 11 TWP: 7S RNO: 18E ACRES:  
 FIELD: Wehking RESERVOIR: Lower McLouth PIPELINE CONNECTION: Atchison Pipeline Co.

COMPLETION DATE: 11/19/87 PLUG BACK TOTAL DEPTH: PACKER SET AT:

CASINO SIZE: WT. 10.5# I.D. 4.7" SET AT 1852 PERF. 1766 TO 1770

TUBING SIZE: WT. 4.7# I.D. 4.7" SET AT 1754 PERF. TO

TYPE COMPLETION (Describe): Single Gas TYPE FLUID PRODUCTION: None

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

GAS GRAVITY - G<sub>g</sub>: 0.591 % CARBON DIOXIDE: 0.32 % NITROGEN: 6.09 API GRAVITY OF LIQUID:

VERTICAL DEPTH (ft): 1768 TYPE METER CONN.: Flange/Down (METER RUN)(PROVER) SIZE: 2.067

SHUT-IN PRESSURE: SHUT IN 19 8/7 89 AT 8:00 (AM)(PM)  
 FLOW TEST: STARTED 9/14 19 89 AT 4:00 (AM)(PM) TAKEN 9/15 19 89 AT 4:00 (AM)(PM)

**OBSERVED DATA**

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psig	DIFF. in. (h <sub>w</sub> )(h <sub>d</sub> )	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASINO WELLHEAD PRESS		TUBING WELLHEAD PRESS		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P <sub>w</sub> )(P <sub>t</sub> )(P <sub>c</sub> ) psia	psig	(P <sub>w</sub> )(P <sub>t</sub> )(P <sub>c</sub> ) psia		
SHUT-IN						365	379.4			576	
FLOW	0.50	255	3	69		288	302.4	255	269.4	24	

**RATE OF FLOW CALCULATIONS** \*Meter pressure used; wellhead pressures unknown

COEFFICIENT (P <sub>w</sub> )(P <sub>d</sub> ) / Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION √P <sub>mshw</sub>	GRAVITY FACTOR F <sub>g</sub>	FLOWING TEMP. F <sub>L</sub>	DEVIATION FACTOR F <sub>pv</sub>	RATE OF FLOW R Mcfd	GOR
1.219	269.4	28.43	1.301	0.9915	1.016	45	RECEIVED STATE-CORPORATION COMMISSION 16 1989

**(OPEN FLOW) (DELIVERABILITY) CALCULATIONS**

(P<sub>c</sub>)<sup>2</sup> = 143,944 ; (P<sub>w</sub>)<sup>2</sup> = 91,446 ; P<sub>d</sub> = \_\_\_\_\_ % (P<sub>c</sub> - 14.4) + 14.4 = \_\_\_\_\_ (P<sub>d</sub>)<sup>2</sup> = 0.207

(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> / (P <sub>c</sub> ) <sup>2</sup> - (P <sub>d</sub> ) <sup>2</sup>	(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	(P <sub>c</sub> ) <sup>2</sup> - (P <sub>d</sub> ) <sup>2</sup> / (P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	LOG [ ]	"n"	n x LOG [ ]	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
143,737	52,498	2.74	0.4377	1.000	0.4377	2.74	123

OPEN FLOW 97.1 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 2nd day of October, 19 89.  
 Witness (if any):  
 For Company: *[Signature]*  
 Checked by: