

# STATE OF KANSAS - CORPORATION COMMISSION

FORM G-3  
8-7-58

## ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

15-103-20936-0000

TYPE TEST:  Deliverability  Open Flow TEST DATE: April 1, 1988

COMPANY: Mid-Gulf, Inc. LEASE: Gruendel WELL NO.: 2

COUNTY: Leavenworth LOCATION: nw-NE-se-se SECTION: 12 TWP: 10S RNO: 22E ACRES:

FIELD: Fairmount RESERVOIR: McLouth PIPELINE CONNECTION: Mid-Gulf

COMPLETION DATE: PLUG BACK TOTAL DEPTH: PACKER SET AT:

CASINO SIZE	WT.	L.D.	SET AT	PERF.	TO
4 1/2"	11.6		1210	1096	1108
TUBING SIZE	WT.	L.D.	SET AT	PERF.	TO
2 3/8"					

TYPE COMPLETION (Describe): Single TYPE FLUID PRODUCTION:

PRODUCING THRU: Casing RESERVOIR TEMPERATURE: 90 BAR. PRESS - P<sub>a</sub>: 14.4 Psia

GAS GRAVITY - G<sub>g</sub>: 0.5742 % CARBON DIOXIDE: 0 % NITROGEN: 3.5 API GRAVITY OF LIQUID:

VERTICAL DEPTH (ft): 1102 TYPE METER CONN.: Flange (METER RUN)(PROVER) SIZE: 2"

SHUT-IN PRESSURE: SHUT IN Mar 29 1988 AT Noon (AM)(PM) TAKEN Apr 1 1988 AT 10:55 (AM)(PM)

FLOW TEST: STARTED Apr. 1 1988 AT 10:55 AM (AM)(PM) TAKEN \_\_\_\_\_ AT \_\_\_\_\_ (AM)(PM)

### OBSERVED DATA

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

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psig	DIFF. in. (h <sub>w</sub> Xh <sub>d</sub> )	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASINO WELLHEAD PRESS.		TIING WELLHEAD PRESS.		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P <sub>w</sub> X P <sub>i</sub> X P <sub>c</sub> ) psia	psig	(P <sub>w</sub> X P <sub>i</sub> X P <sub>c</sub> ) psia		
SHUT-IN						422.0	436.4	395.0	409.4	24+	
FLOW	1.00	89	7	60	60	390.0	404.4	282.0	296.4	1.5	

### RATE OF FLOW CALCULATIONS

COEFFICIENT (P <sub>c</sub> ) <sup>2</sup> / (P <sub>w</sub> ) <sup>2</sup> Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION √P <sub>m</sub> h <sub>w</sub>	GRAVITY FACTOR F <sub>g</sub>	FLOWING TEMP. FACTOR F <sub>L</sub>	DEVIATION FACTOR F <sub>pv</sub>	RATE OF FLOW R Mcfd	GOR	G <sub>m</sub>
5.073	103.4	26.90	1.320	1.000	1.003	181		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>c</sub>)<sup>2</sup> = 190.4 ; (P<sub>w</sub>)<sup>2</sup> = 163.5 ; P<sub>d</sub><sup>2</sup> = \_\_\_\_\_ % (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> or (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>	$\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2}$	LOG [ ]	"n"	n = LOG [ ]	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R = ANTILOG Mcfd
190.2	26.9			0.683			688

OPEN FLOW 688 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 16th day of May, 1988

Wayne McCune  
For Company

Witness (if any)

For Commission

Checked by