

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

15-103-20936-0000
FORM 0-3
8-7-88
RECEIVED
5-15-89
MAY 15 1989
103
P.3
5-16-89

TYPE TEST: Deliverability Open Flow TEST DATE: 4/4/89

COMPANY: Mid Gulf, Inc. LEASE: Greundel WELL NO.: 2

COUNTY: Leavenworth LOCATION: NW SE SE SECTION: 12 TWP: 10 RNO: 22E

FIELD: Fairmont RESERVOIR: McLouth PIPELINE CONNECTION: Fairmont Pipeline

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

CASING SIZE: 4 1/2" WT.: 11.6 L.D.: SET AT: 1210 PERF.: 1096 TO: 1108

TUBING SIZE: 2 3/8" WT.: L.D.: SET AT: 1063' PERF.: TO:

TYPE COMPLETION (Describe): Single Gas TYPE FLUID PRODUCTION: Nil

PRODUCING THRU: Tubing RESERVOIR TEMPERATURE: F BAR. PRESS - P_o: 14.4 Psia

GAS GRAVITY - G_g: .5742 % CARBON DIOXIDE: 0 % NITROGEN: 3.5 API GRAVITY OF LIQUID:

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

SHUT-IN PRESSURE: SHUT IN 3/28 1989 AT 830 (AM)(PM) TAKEN 3/31 1989 AT 235 (AM)(PM)
FLOW TEST: STARTED 4/3 1989 AT 1030 (AM)(PM) TAKEN 4/4 1989 AT 1025 (AM)(PM)

OBSERVED DATA DURATION OF SHUT-IN 78 HR.

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psig	DIFF. in. (h _w)(h _d)	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASING WELLHEAD PRESS		TUBING WELLHEAD PRESS		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w)(P _f)(P _o) psia	psig	(P _w)(P _f)(P _o) psia		
SHUT-IN						263.0	277.4	263.0	277.4	78.0	
FLOW	3/4	56.5	35.5		60	230.3	244.7			25.0	

RATE OF FLOW CALCULATIONS

COEFFICIENT (F _o)(F _g) Mcfd	(METER) (PROVER) PRESSURE psia	EX.ENSION $\sqrt{P_m h_w}$	GRAVITY FACTOR F _g	FLOWING TEMP. FACTOR F _L	DEVIATION FACTOR F _{pv}	RATE OF FLOW R Mcfd	GOR	G _m
2.779	70.9	50.169	1.320	1.00	1.00	184		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_o)² = 76 951, (P_w)² = 59 878, P_o = _____ % (P_c - 14.4) + 14.4 = _____ (P_o)² = 0.207 (P_w)² = _____

$\frac{(P_o)^2 - (P_w)^2}{(P_o)^2 - (P_w)^2}$	$(P_c)^2 - (P_w)^2$	$\frac{P_c^2 - P_o^2}{P_c^2 - P_w^2}$	LOG []	"a"	a x LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
76 744	17 073	4.495	.6527	.683	.4458	2.7914	514

OPEN FLOW 514 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 12th day of April, 1989. *MSA [Signature]* Consultant

Witness (if any) For Commission For Company Checked by