

15-181-20260-00-00
STATE OF KANSAS - CORPORATION COMMISSION
 ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

FORM O-2
8-7-58

TYPE TEST: Deliverability Open Flow TEST DATE: 6-2-86

COMPANY: GOODLAND GAS COMPANY LEASE: Schwendener WELL NO.: 3-36

COUNTY: Sherman LOCATION: SW 1/4, NE 1/4 SECTION: 36 TWP: 7S RNG: 39W ACRES:

FIELD: Goodland RESERVOIR: Niobrara PIPELINE CONNECTION: KN Energy

COMPLETION DATE: 10-28-83 PLUG BACK TOTAL DEPTH: Packer Set at: None

CASING SIZE: 4 1/2" WT. LD. SET AT: 1213 PERF.: 978 TO: 998

TUBING SIZE: None WT. LD. SET AT: PERF.: TO:

TYPE COMPLETION (Describe): Frac 100,000# Sd., 932 Bbls H₂O TYPE FLUID PRODUCTION: Gas

PRODUCING THRU: Casing RESERVOIR TEMPERATURE, F: 13.2 BAR. PRESS - P_a: 13.2 XX Psia

GAS GRAVITY - G_g: 0.5837 % CARBON DIOXIDE: 1.98 % NITROGEN: 2.79 API GRAVITY OF LIQUID:

VERTICAL DEPTH (M): TYPE METER CONN.: Orifice (METER RUN) (PROVER) SIZE: 2.067

SHUT-IN PRESSURE: SHUT IN 5-27 19 86 AT (AM)(PM) TAKEN 5-30 19 86 AT (AM)(PM)

FLOW TEST: STARTED 5-30 19 86 AT (AM)(PM) TAKEN 6-2 19 86 AT (AM)(PM)

OBSERVED DATA

DURATION OF SHUT-IN _____ 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 _i)(P _c) psia	psig	(P _w)(P _i)(P _c) psia		
SHUT-IN	--	---	--	--	--	20	33.2	--	--	72	--
FLOW	0.250	--	--	67	--	14.8	28	--	--	72	--

RATE OF FLOW CALCULATIONS

COEFFICIENT (F _w) (M _d)	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m h_w}$	GRAVITY FACTOR γ_g	FLOWING TEMP. FACTOR F_L	DEVIATION FACTOR F_{pv}	RATE OF FLOW R Mcfd	GOR	O _m
12.7	--	--	1.3089	0.9933	1.0008	5	--	--

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = _____ (P_w)² = _____ P_d² = _____ % (P_c - 14.4) + 14.4 = _____ (P_w)² = 0.207 (P_d)² = _____

$\frac{(P_c)^2 - (P_w)^2}{(P_c)^2 - (P_d)^2}$	$(P_c)^2 - (P_w)^2$	$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]$	LOG []	"n"	n x LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
0.928	0.318	2.916	0.465	1.000	0.465	2.916	9
							15

OPEN FLOW 9-15 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 25th day of NOV, 1986.

Robert M. Richards
For Company

Witness (if any)

DEC 5 1986

Checked by

DEC 1 1986