

15-181-20264-00-00

FORM O-2
8-7-58

29
6-12-87

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

TYPE TEST: Deliverability Open Flow TEST DATE: FLOW TEST 5-27-87

COMPANY: GOODLAND GAS COMPANY LEASE: Hendrich WELL NO.: 1-1

COUNTY: Sherman LOCATION: SW 1/4 SW 1/4 SECTION: 1 TWP: 8S RNG: 40W ACRES:

FIELD: Goodland RESERVOIR: Niobrara PIPELINE CONNECTION: KNEnergy

COMPLETION DATE: 11-17-83 PLUG BACK TOTAL DEPTH: 1224 PACKER SET AT: None

CASING SIZE: 4 1/2" WT.: 9.5#/ft I.D.: SET AT: 1303 PERF.: 1132 TO: 1168

TUBING SIZE: None WT.: I.D.: SET AT: PERF.: TO:

TYPE COMPLETION (Describe): Frac 82 600# Sd TYPE FLUID PRODUCTION: 40 tons CO2 627 Bbls H2O Gas

PRODUCING THRU: Casing RESERVOIR TEMPERATURE F: 14.4 Psia BAR. PRESS - P_a

GAS GRAVITY - G_g: 0.5827 % CARBON DIOXIDE: 1.28 % NITROGEN: 2.635 API GRAVITY OF LIQUID: --

VERTICAL DEPTH (H): TYPE METER CONN.: Orifice-Flange (METER RUN)(PROVER) SIZE: 2.067

SHUT-IN PRESSURE: SHUT IN 5-15 19 87 AT 10:35 (AM)(X) TAKEN 5-18 19 87 AT 10:58 (AM)(X)

FLOW TEST: STARTED 5-26 19 87 AT 10:48 (AM)(X) TAKEN 5-27 19 87 AT 10:35 (AM)(X)

OBSERVED DATA DURATION OF SHUT-IN 72 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 _t)(P _c) psia	psig	(P _w)(P _t)(P _c) psia		
SHUT-IN	--	--	--	--	--	21.0	35.40	--	--	72	--
FLOW	0.50	18.8	3.1	60	--	19.0	33.40	--	--	24	--

RATE OF FLOW CALCULATIONS

COEFFICIENT (F _b)(F _p) Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m \times h_w}$	GRAVITY FACTOR F _g	FLOWING TEMP. F _t	DEVIATION FACTOR F _{pv}	RATE OF FLOW R Mcfd	GOR	G _m
50.5	33.20	10.14	1.31	1.00	1.0005	16	--	--

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 1253.16 ; (P_w)² = 1115.56 ; P_d = _____ % (P_c - 14.4) + 14.4 = _____ (P_d)² = 0.207

$\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_d)^2}$	$(P_c)^2 - (P_w)^2$	$\frac{P_c^2 - P_a^2}{P_c^2 - P_d^2}$	LOG []	"n"	n x LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
1045.80	137.60	7.60	0.88	0.869	0.77	5.83	93

OPEN FLOW 91 Mcfd @ 14.65 psia DELIVERABILITY RATE CORPORATION 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 29 day of May, 1987

Signature: *[Handwritten Signature]*
For Company

Witness (if any)

Checked by