

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

FORM G-2  
8-7-53

TYPE TEST:  Deliverability  Open Flow TEST DATE: 3/09/90

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

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

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FIELD: Goodland RESERVOIR: Niobrara PIPELINE CONNECTION: KNEnergy

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COMPLETION DATE: 10-23-83 PLUG BACK TOTAL DEPTH: 1001' PACKER SET AT: None

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CASINO SIZE: 4 1/2" WT: 9.5#/ft. I.D.: SET AT: 1213' PERF.: 978 TO: 998

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

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TYPE COMPLETION (Describe): Frac 100,000# Sd, 932 Bbls H<sub>2</sub>O TYPE FLUID PRODUCTION: Gas

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

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GAS GRAVITY - G<sub>g</sub>: 0.5860 % CARBON DIOXIDE: 1.98 % NITROGEN: 2.790 API GRAVITY OF LIQUID: --

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

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SHUT-IN PRESSURE: SHUT IN 2/9 19:90 AT 9:05 (AM)(PM) TAKEN 2/12 1990 AT 10:20 (AM)(PM)

FLOW TEST: STARTED 2/22 19:90 AT 8:00 (AM)(PM) TAKEN 2/23 1990 AT 8:00 (AM)(PM)

OBSERVED DATA DURATION OF SHUT-IN: 72 HR.

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psig	DIFF. in. (h <sub>w</sub> )(h <sub>sp</sub> )	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASINO WELL-HEAD PRESS		TUBING WELL-HEAD PRESS		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P <sub>w</sub> )(P <sub>i</sub> )(P <sub>c</sub> ) psia	psig	(P <sub>w</sub> )(P <sub>i</sub> )(P <sub>c</sub> ) psia		
SHUT-IN	--	--	--	--	--	23	37.4	--	--	72	--
FLOW	0.25	11.3	8.0	31	--	13	27.4	--	--	24	--

RATE OF FLOW CALCULATIONS

COEFFICIENT (F <sub>g</sub> )(F <sub>g</sub> ) Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m \times h_w}$	GRAVITY FACTOR F <sub>g</sub>	FLOWING TEMP. FACTOR F <sub>t</sub>	DEVIATION FACTOR F <sub>pv</sub>	RATE OF FLOW R Mcfd	GOR	G <sub>m</sub>
0.3067	25.7	14.34	1.3063	1.029	1.0010	6	--	--

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>c</sub>)<sup>2</sup> = 1.399 ; (P<sub>w</sub>)<sup>2</sup> = 0.751 ; P<sub>d</sub> = -- % (P<sub>c</sub> - 14.4) + 14.4 = -- ; (P<sub>c</sub>)<sup>2</sup> = 0.207 ; (P<sub>d</sub>)<sup>2</sup> = --

$\frac{(P_c)^2 - (P_d)^2}{(P_c)^2 - (P_w)^2}$	$(P_c)^2 - (P_w)^2$	$\left[ \frac{P_c^2 - P_a^2}{P_c^2 - P_w^2} \right]$	LOG [ ]	"n"	n x LOG [ ]	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
1.192	0.648	1.839	0.265	0.85	0.225	1.68	10

OPEN FLOW 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 31<sup>st</sup> day of Dec, 1990.

*John P. Sanders*  
For Company

Witness (if any)

For Commission

Checked by