

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

FORM O-2  
8-7-58

15-2181-20072-0000

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

COMPANY: GOODLAND GAS COMPANY    LEASE: Glasco    WELL NO.: 3-31

COUNTY: Sherman    LOCATION: SW<sub>2</sub>, SW<sub>2</sub>, SW<sub>2</sub>    SECTION: 31    TWP: 7S    RNG: 38W    ACRES: \_\_\_\_\_

FIELD: Goodland    RESERVOIR: Niobrara    PIPELINE CONNECTION: KN Energy

COMPLETION DATE: 11-19-79    PLUG BACK TOTAL DEPTH: 1020    PACKER SET AT: \_\_\_\_\_

CASING SIZE: 4 1/2"    WT.: \_\_\_\_\_    I.D.: \_\_\_\_\_    SET AT: 918    PERF.: None    TO: \_\_\_\_\_

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

TYPE COMPLETION (Describe): Open hole    TYPE FLUID PRODUCTION: Gas

PRODUCING THRU: Casing    RESERVOIR TEMPERATURE: \_\_\_\_\_ °F    BAR. PRESS - P<sub>a</sub>: 13.2 ~~XXXX~~ psia

GAS GRAVITY - G<sub>g</sub>: 0.5837    % CARBON DIOXIDE: 1.98    % NITROGEN: 2.79    API GRAVITY OF LIQUID: \_\_\_\_\_

VERTICAL DEPTH (H): \_\_\_\_\_    TYPE METER CONN.: Orifice    (METER RUN) (METER) SIZE: 2.067

SHUT-IN PRESSURE: SHUT IN 5-27 1986 AT \_\_\_\_\_ (AM)(PM) TAKEN 5-30 1986 AT \_\_\_\_\_ (AM)(PM)  
 FLOW TEST: STARTED 5-30 1986 AT \_\_\_\_\_ (AM)(PM) TAKEN 6-2 1986 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> )(h <sub>d</sub> )	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASING WELLHEAD PRESS.		TUBING WELLHEAD 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	--	--	--	--	--	24.5	37.7	--	--	72	--
FLOW	0.750	--	--	64	--	21.8	35	--	--	72	--

**RATE OF FLOW CALCULATIONS**

COEFFICIENT (F <sub>p</sub> )(F <sub>d</sub> ) Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_{mshw}}$	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>
115.1	--	--	1.3089	0.9962	1.0013	30	--	--

**(OPEN FLOW) (DELIVERABILITY) CALCULATIONS**

(P<sub>c</sub>)<sup>2</sup> = \_\_\_\_\_, (P<sub>w</sub>)<sup>2</sup> = \_\_\_\_\_, P<sub>d</sub><sup>2</sup> = \_\_\_\_\_ % (P<sub>c</sub> - 14.4) + 14.4 = \_\_\_\_\_, (P<sub>w</sub>)<sup>2</sup> = 0.207, (P<sub>d</sub>)<sup>2</sup> = \_\_\_\_\_

$\frac{(P_c)^2 - (P_w)^2}{(P_c)^2 - (P_d)^2}$	$(P_c)^2 - (P_w)^2$	$\frac{P_c^2 - P_w^2}{P_c^2 - P_d^2}$	LOG [ ]	"n"	n x LOG [ ]	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
1.247	0.196	6.353	0.803	0.718	0.577	3.772	113

OPEN FLOW 113 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 25<sup>th</sup> day of Nov, 1986.

*Robert M. Richardson*  
For Company

Witness (if any)

For Commission

DEC 5 1986

Checked by DEC 11 1986