STATE OF KANSAS -- CORPORATION COMMISSION

FORM C-2
8-7-50

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

1-391

15-181-20268-00-00

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

COMPANY	LEASE	WELL NO.
GOODLAND GAS COMPANY	Armstrong	1-12A

COUNTY	LOCATION	SECTION	TWP	RNG	ACRES
Sherman	SW¼, NW¼	12	8S	40W	

FIELD	RESERVOIR	PIPELINE CONNECTION
Goodland	Niobrara	KNEnergy

COMPLETION DATE	PLUG BACK TOTAL DEPTH	PACKER SET AT
11-16-83	1231	None

CASING SIZE	WT.	I.D.	SET AT	PERF.	TO
4½"	9.5#/ft.		1301	1163	1190

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

TYPE COMPLETION (Describe)	TYPE FLUID PRODUCTION
Frac 82,600# Sd., 631 Bbls H2O	Gas

PRODUCING THRU	RESERVOIR TEMPERATURE °F	BAR. PRESS – P_a
Casing		Psia

GAS GRAVITY – G_g	% CARBON DIOXIDE	% NITROGEN	API GRAVITY OF LIQUID
0.5920	1.98	2.790	--

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

SHUT-IN PRESSURE: SHUT IN 2/9 19 90 AT 10:55 (AM) TAKEN 2/12 19 90 AT 8:25 (AM)

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

OBSERVED DATA

DURATION OF SHUT-IN 72 HR.

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psig	DIFF. in. (h_w)	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASING WELLHEAD PRESS. psig	CASING WELLHEAD PRESS. $(P_w)(P_t)(P_c)$ psia	TUBING WELLHEAD PRESS. psig	TUBING WELLHEAD PRESS. $(P_w)(P_t)(P_c)$ psia	DURATION HOURS	LIQUID PROD. Bbls.
SHUT-IN	--	--	--	--	--	29	43.4	--	--	72	--
FLOW	0.75	17	10.2	37	--	15	29.4	--	--	24	--

RATE OF FLOW CALCULATIONS

COEFFICIENT $(F_b)(F_p)$ Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m x h_w}$	GRAVITY FACTOR F_g	FLOWING TEMP. FACTOR F_t	DEVIATION FACTOR F_{pv}	RATE OF FLOW R Mcfd	GOR	G_m
2.779	31.4	17.93	1.2997	1.023	1.0015	66	--	--

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

$(P_c)^2$ = 1.884 ; $(P_w)^2$ = 0.864 ; P_d = -- % ; $(P_c - 14.4) + 14.4$ = -- ; $(P_d)^2$ = 0.207 --

$(P_c)^2-(P_a)^2$ or $(P_c)^2-(P_d)^2$	$(P_c)^2-(P_w)^2$	$\frac{P_c^2-P_a^2}{P_c^2-P_d^2}$ / $P_c^2-P_w^2$	LOG [ ]	"n"	n x LOG [ ]	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
1.677	1.019	1.645	0.216	0.85	0.184	1.53	101

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 31st day of Dec, 1990

John P. Landers
For Company

Witness (If any)

For Commission

Checked by

Consolidated Oil Co.
Victoria, Kansas