

STATE OF KANSAS - CORPORATION COMMISSION

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

FORM 6-2
8-7-59

TYPE TEST: ☐ Deliverability ☒ Open Flow TEST DATE: 23 MAY 1977

COMPANY UPEN ROME LEASE BRITTON WELL NO. 1

COUNTY EDWARDS LOCATION KANSAS SECTION C-NE TWP 26 RND 18 ACRES

FIELD _____ RESERVOIR _____ PIPELINE CONNECTION NONE

COMPLETION DATE _____ PLUG BACK TOTAL DEPTH _____ PACKER SET AT _____

CASINO SIZE 4 1/2 WT. OPERATOR I.D. _____ SET AT _____ PERF. _____ TO _____

TUBING SIZE 2 1/4 WT. _____ I.D. _____ SET AT _____ PERF. _____ TO _____

TYPE COMPLETION (Describe) SINGLE (EAS) TYPE FLUID PRODUCTION _____

PRODUCING THRU TUBING RESERVOIR TEMPERATURE F _____ BAR. PRESS - P_a _____
14.4 Psia

GAS GRAVITY - 0.688 % CARBON DIOXIDE _____ % NITROGEN _____ API GRAVITY OF LIQUID _____

VERTICAL DEPTH (H) _____ TYPE WELL CORN. NONE (MECHANICAL) (PROVER) SIZE 2"

SHUT-IN PRESSURE: SHUT IN 8134K 1977 AT _____ (AM)(PM) TAKEN 23 MAY 1977 AT 10:00 (AM)(PM)

FLOW TEST: STARTED 23 MAY 1977 AT 10:30 (AM)(PM) TAKEN 24 MAY 1977 AT 05:30 (AM)(PM)

OBSERVED DATA

DURATION OF SHUT-IN: 3 HRS.

SHUT-IN OR FLOW	ORIFICE SIZE in.	(PROVER) PRESSURE psig	DIFF. in. (h _w)(h _d)	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASINO WELLHEAD PRESS		TUBING WELLHEAD PRESS		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w)(P _d)(P _c) psia	psig	(P _w)(P _d)(P _c) psia		
SHUT-IN						1366	1380.4	1366	1380.4		
FLOW	<u>1/8</u>	<u>1249</u>		<u>69</u>		<u>1334</u>	<u>1348.4</u>	<u>1249</u>	<u>1263.4</u>	<u>24</u>	

RATE OF FLOW CALCULATIONS 52 PENALTY 1297.7 = 1312.1

COEFFICIENT (P _b)(P _w) Mcfd	(PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m h_w}$	GRAVITY FACTOR F _g	FLOWING TEMP. FACTOR F _t	DEVIATION FACTOR F _{pv}	RATE OF FLOW R Mcfd	GOR	Q _m
<u>.2716</u>	<u>1263.4</u>		<u>1.262</u>	<u>.9924</u>	<u>1.117</u>	<u>480</u>		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 1905.5 (P_w)² = 1721.6 P_d = _____ % (P_c - 14.4) + 14.4 = _____ (P_d)² = 0.207

$\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_d)^2}$	$\frac{(P_c)^2 - (P_w)^2}{(P_c)^2 - (P_d)^2}$	$\frac{P_c^2 - P_a^2}{P_c^2 - P_w^2}$	LOG []	"n"	n x LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
<u>1905.3</u>	<u>183.9</u>	<u>10.36</u>	<u>1.015</u>	<u>.701</u>	<u>.7118</u>	<u>5.150</u>	<u>2,472</u>

OPEN FLOW Mcfd @ 14.65 psia DELIVERABILITY 2,472 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 24 day of May, 1977.

William F. Turner
For Company

Witness (if any) _____
For Commission _____

Checked by _____

12/27/77 - John Cecil:

Do you suppose these 'Open Flow' Deliverability tests ^{figures} on the #1 BRITTON were 'transposed'? The May 23, 1977 reads 2,472 MCFD and the December 13, 1977 reads 4,271 MCFD?

Negative. The December test rate of Faye flow was 827 mcfpd vs 480 mcfpd in May. However the casing pressure drawdowns were almost the same 32 psi vs 34 psi. The Deliverabilities Actually calculated 2472 vs 4271. John

REC'D JAN 6 1978

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

FORM NO. 8-7-58

TYPE TEST: ☒ Deliverability ☐ Open Flow TEST DATE: 13 DEC 77

COMPANY: MCLEN ROPE LEASE: BRITTON WELL NO.: 1

COUNTY: EDWARDS LOCATION: KS C-NE SECTION: 7 TWP: 26 RNG: 18 ACRES: 18

FIELD: MISSISSIPPI RESERVOIR: MISSISSIPPI PIPELINE CONNECTION: K. N. H. G. Ks. - N. 42 R. N. 4 E. Gas

COMPLETION DATE: _____ PLUG BACK TOTAL DEPTH: _____ PACKER SET AT: LAKIN, KS 67860

CASINO SIZE: 472 WT. _____ I.D. _____ SET AT: 4836 PERF. TO: 4684-98

TUBING SIZE: 2 1/4 WT. _____ I.D. _____ SET AT: _____ PERF. TO: _____

TYPE COMPLETION (Describe): SINGLE (H.A.S.) TYPE FLUID PRODUCTION: _____

PRODUCING THRU: TOPING RESERVOIR TEMPERATURE F: _____ BAR. PRESS - P_s: 14.4 Psia

GAS GRAVITY - G_s: 0.628 % CARBON DIOXIDE: _____ % NITROGEN: _____ API GRAVITY OF LIQUID: _____

VERTICAL DEPTH (H): _____ TYPE METER CONN.: FLANGE (METER RUN) (PROVER) SIZE: 2"

SHUT-IN PRESSURE: SHUT IN 21 JAN 77 AT 77 (AM/PM) TAKEN 18 DEC 1977 AT 11:45 (AM/PM)

FLOW TEST: STARTED 18 DEC 1977 AT 12:00 (AM/PM) TAKEN 13 DEC 1977 AT 10:00 (AM/PM)

OBSERVED DATA

DURATION OF SHUT-IN: OVER 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	CASINO WELL-HEAD PRESS		TUBING WELL-HEAD PRESS		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w)(P _c)(P _d) psia	psig	(P _w)(P _c)(P _d) psia		
SHUT-IN						1365	1379.4	1365	1379.4		
FLOW	1.000	328	45	54		1331	1345.4	1236	1250.4	22	

RATE OF FLOW CALCULATIONS 5% PENALTY 1297-1311.4

COEFFICIENT (F _p)(F _d) Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m h_w}$	GRAVITY FACTOR F _g	FLOWING TEMP. FACTOR F _L	DEVIATION FACTOR F _{pv}	RATE OF FLOW R Mcfd	GOR	Q _m
5.073	342.4	124.13	1.962	1.006	1.034	827		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

$(P_c)^2 = 1902.7$		$(P_w)^2 = 1719.8$		$P_d = \underline{\hspace{1cm}} \%$	$(P_c - 14.4) + 14.4 = \underline{\hspace{1cm}}$		$(P_d)^2 = 0.207$
$\frac{(P_c)^2 - (P_w)^2}{(P_c)^2 - (P_d)^2}$	$(P_c)^2 - (P_w)^2$	$\frac{P_c^2 - P_w^2}{P_c^2 - P_d^2}$	LOG []	"n"	$n = \text{LOG} [\]$	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R = ANTILOG Mcfd
1902.5	182.9	10.40	1.017	.701	.7130	5.164	4,271

OPEN FLOW Mcfd @ 14.65 psia 4,271 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 16 day of Dec, 1977.

William E. Durrant
For Company

Witness (if any)

For Commission

Checked by

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

Form 6-2
8-7-54

TYPE TEST: ☒ Deliverability ☐ Open Flow TEST DATE: 14 DEC 78

COMPANY: GLEN RUPE LEASE: BRITTON WELL NO.: 1

COUNTY: EDWARDS LOCATION: KANSAS SECTION: 8 TWP: 26 RNG: 18 ACRES:

FIELD: RESERVOIR: PIPELINE CONNECTION: K.N.N. &

COMPLETION DATE: PLUG BACK TOTAL DEPTH: PACKER SET AT:

CASING SIZE: WT. LD. SET AT PERF. TO

TUBING SIZE: WT. I.D. SET AT PERF. TO

TYPE COMPLETION (Describe): DUAL (OIL & GAS) TYPE FLUID PRODUCTION:

PRODUCING THRU: TUBING RESERVOIR TEMPERATURE $^{\circ}$ BAR. PRESS - P_s : 14.4 Psia

GAS GRAVITY - G_g : 0.614 % CARBON DIOXIDE: % NITROGEN: API GRAVITY OF LIQUID:

VERTICAL DEPTH (H): TYPE METER CONN.: FLANGE (METER RUN) (PROVER) SIZE: 2"

SHUT-IN PRESSURE: SHUT IN 11 DEC 78 AT (AM)(PM) TAKEN 14 DEC 78 AT 10:30 (AM)(PM)

FLOW TEST: STARTED 14 DEC 78 AT 10:30 (AM)(PM) TAKEN 15 DEC 78 AT 10:15 (AM)(PM)

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 _f)(P _c) psia	psig	(P _w)(P _f)(P _c) psia		
SHUT-IN				ASS		812	826.4	625	639.4		
FLOW	1.000	280	28	60'		840	854.4	373	387.4	22 3/4	

RATE OF FLOW CALCULATIONS 5% PENALTY 798 = 812.4

COEFFICIENT $(\frac{P_s}{P_d})^{1.0}$ Mofd	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m h_w}$	GRAVITY FACTOR F_g	FLOWING TEMP. F_L	DEVIATION FACTOR F_{gv}	RATE OF FLOW R Mofd	GOR	Q_m
5.073	294.4	90.79	1.276	1.000	1.028	604		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

$(P_s)^2 = 730.0$		$(P_w)^2 = 660.0$		$P_d =$ _____ %	$(P_c - 14.4) + 14.4 =$ _____		$(P_s)^2 = 0.207$	$(P_d)^2 =$ _____
$\frac{(P_s)^2 - (P_d)^2}{(P_s)^2 - (P_d)^2}$	$(P_c)^2 - (P_w)^2$	$\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_w^2} \right]$	LOG []	"n"	$n = \text{LOG []}$	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R = ANTILOG Mofd	
729.8	70.0	10.43	1.018	.701	.7137	5.172	3.124	

OPEN FLOW Mofd @ 14.65 psia DELIVERABILITY 3.124 Mofd @ 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 10 day of Jan, 1979

William E. Turner
For Company

Witness (if any)

For Commission

Checked by

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

1252562
8-7-58

ANNUAL

18 AUG 1958

TYPE TEST: ☒ Deliverability ☐ Open Flow TEST DATE: 13 AUG 79

COMPANY: GREEN RUPPE LEASE: BRITTON WELL NO.: 1

COUNTY: EDWARDS LOCATION: KANSAS SECTION: 8 TWP: 26 RNO: 18 ACRES:

FIELD: RESERVOIR: PIPELINE CONNECTION: K. H. H. Co.

COMPLETION DATE: PLUG BACK TOTAL DEPTH: PACKER SET AT:

CASING SIZE: WT. I.D. SET AT PERF. TO

TUBING SIZE: WT. I.D. SET AT PERF. TO

TYPE COMPLETION (Describe): SINGLE (WAS) TYPE FLUID PRODUCTION:

PRODUCING THRU: 10/12/6 RESERVOIR TEMPERATURE $^{\circ}$ F: BAR. PRESS - P_s : 14.4 Psia

GAS GRAVITY - G_g : 0.614 % CARBON DIOXIDE: % NITROGEN: API GRAVITY OF LIQUID:

VERTICAL DEPTH (H): TYPE METER CONN.: FLANGE (METER RUN) (PROVISED) SIZE: 2

SHUT-IN PRESSURE: SHUT IN 11 AUG 1979 AT 8:00 (AM)(PM) TAKEN 13 AUG 1979 AT 10:15 (AM)(PM)

FLOW TEST: STARTED 13 AUG 1979 AT 10:15 (AM)(PM) TAKEN 14 AUG 1979 AT 10:30 (AM)(PM)

OBSERVED DATA

DURATION OF SHUT-IN: 73 1/2

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (FLOWER) PRESSURE psig	DIFF. in. (h _w)(h _d)	FLOWING TEMP. $^{\circ}$ F	WELL-HEAD TEMP. $^{\circ}$ F	CASED WELL-HEAD PRESS		TUBING WELL-HEAD PRESS		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w)(P _i)(P _e) psia	psig	(P _w)(P _i)(P _e) psia		
SHUT-IN						976	990.4	PUMP			
FLOW	1.000	320	8	66°		598	612.4			24 1/4	120 Bbls.

RATE OF FLOW CALCULATIONS

COEFFICIENT (F _p)(F _d) Mcfd	(METER) (FLOWER) PRESSURE psia	EXTENSION $\sqrt{P_m - P_w}$	GRAVITY FACTOR γ_g	FLOWING TEMP. $^{\circ}$ F	DEVIATION FACTOR F_{gv}	RATE OF FLOW R Mcfd	GOR	O _m
5.073	314.4	52.49	1.276	99.43	1.031	348		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_d)² = 980.9 (P_w)² = 375.0 P_d = % (P_c - 14.4) + 14.4 = (P_d)² = 0.207 (P_d)² =

$\frac{(P_d)^2 - (P_w)^2}{(P_c)^2 - (P_w)^2}$	$\frac{(P_c)^2 - (P_w)^2}{(P_c)^2 - (P_w)^2}$	$\frac{(P_c^2 - P_w^2)}{P_c^2 - P_w^2}$	LOG []	"a"	a = LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R = ANTILOG Mcfd
980.9	605.9	1.619	.2091	.701	.1466	1.402	488

OPEN FLOW Mcfd @ 14.65 psia 488 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 15 day of August, 1979.

William E. Thompson
For Company

Witness (if any)

For Commission

Checked by

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

OCT 7 1981

TYPE TEST: ☒ Deliverability ☐ Open Flow TEST DATE: 28 SEPT 81

COMPANY: SLIP ROPE LEASE: EX-1790 WELL NO.: 21# 0019

COUNTY: EDWARDS LOCATION: EDWARDS SECTION: 8 TWP: 26 RND: 13 ACRES:

FIELD: RESERVOIR: PIPELINE CONNECTION: K. N. D. G.

COMPLETION DATE: PLUG BACK TOTAL DEPTH: PACKER SET AT:

CASINO SIZE: WT. I.D. SET AT PERF. TO

TUBING SIZE: WT. I.D. SET AT PERF. TO

TYPE COMPLETION (Describe): 3 1/2" (2 1/2") TYPE FLUID PRODUCTION:

PRODUCING THRU: 10/1/81 RESERVOIR TEMPERATURE: BAR. PRESS - P_o: 14.4 Psia

OAS GRAVITY - G_g: 1.24 % CARBON DIOXIDE: % NITROGEN: API GRAVITY OF LIQUID:

VERTICAL DEPTH (H): TYPE METER CONN.: FLANGE (METER RUN) (PROVEN) SIZE: 3"

SHUT-IN PRESSURE: SHUT IN 750 PSIG AT 10:31 AM (ANNEX) TAKEN 28 SEPT 81 AT 10:15 (AMXPM)

FLOW TEST: STARTED 28 SEPT 81 AT 10:15 (AMXPM) TAKEN 29 SEPT 81 AT 11:15 (AMXPM)

OBSERVED DATA

DURATION OF SHUT-IN: 10 min.

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psig	DIFF. in. (h _w x h _g)	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASINO WELLHEAD PRESS		TUBING WELLHEAD PRESS		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w x P _i x P _o) psia	psig	(P _w x P _i x P _o) psia		
SHUT-IN						825	839.4				
FLOW	750	210	2	76		325	339.4			2.4	

RATE OF FLOW CALCULATIONS

COEFFICIENT (P _o) ² - (P _o) ² Mafd	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_{mh} h_w}$	GRAVITY FACTOR P _g	FLOWING TEMP. P _L	DEVIATION FACTOR P _{sv}	RATE OF FLOW R Mafd	GOR	Q _m
2.779	210	22.9	1.424	.9850	1.081	91		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P _o) ² : <u>704.6</u> ; (P _o) ² : <u>115.2</u> ; P _o = _____ % (P _c - 14.4) + 14.4 = _____		(P _o) ² = 0.201 (P _o) ²	
$\frac{(P_o)^2 - (P_w)^2}{(P_c)^2 - (P_w)^2}$	(P _c) ² - (P _w) ²	$\frac{P_o^2 - P_w^2}{P_c^2 - P_w^2}$	LOG []
"a"	a = LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R = ANTILOG Mafd
<u>704.6</u>	<u>589.4</u>	<u>1.195</u>	<u>.0774</u>

OPEN FLOW Mafd @ 14.65 psia DELIVERABILITY 103 Mafd @ 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 2 day of October, 1981.

W. J. Brown
 Witness (if any)

William E. Brown
 For Company

Checked by

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

FORM O-6
8-7-58

DEC 17 1982

TYPE TEST: ☒ Deliverability ☐ Open Flow TEST DATE: 8 DEC 82

COMPANY: STEEN ROPE LEASE: BRITTON WELL NO.: 1140019

COUNTY: Edwards LOCATION: Kanawha SECTION: 8 TWP: 26 RNO: 18 ACRES:

FIELD: RESERVOIR: PIPELINE CONNECTION: K.A.V.G.

COMPLETION DATE: PLUG BACK TOTAL DEPTH: PACKER SET AT:

CASINO SIZE: WT. L.D. SET AT PERF. TO

TUBING SIZE: WT. L.D. SET AT PERF. TO

TYPE COMPLETION (Describe): Simple (New) TYPE FLUID PRODUCTION:

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

GAS GRAVITY - G_g : 1.630 % CARBON DIOXIDE: % NITROGEN: API GRAVITY OF LIQUID:

VERTICAL DEPTH (H): TYPE METER CONN.: Galange (METER RUN) (PROV) SIZE: 2

SHUT-IN PRESSURE: SHUT IN 6 DEC 1982 AT 11:30 (AM)(PM) TAKEN 8 DEC 1982 AT 10:00 (AM)(PM)

FLOW TEST: STARTED 8 DEC 1982 AT 10:00 (AM)(PM) TAKEN 9 DEC 1982 AT 10:45 (AM)(PM)

OBSERVED DATA										DURATION OF SHUT-IN
SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROV) PRESSURE psig	DIFF. in. ($h_w - h_d$)	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASINO WELL-HEAD PRESS		TUBING WELL-HEAD PRESS		DURATION HOURS
						psig	$(P_w)(P_t)(P_c)$ psia	psig	$(P_w)(P_t)(P_c)$ psia	
SHUT-IN						870	884.4	Pump		
FLOW	1.500	344	6	48		332	356.1			2-1/4

RATE OF FLOW CALCULATIONS								
COEFFICIENT $(F_p)(V)$ Mofd	(METER) (PROV) PRESSURE psia	EXTENSION $\sqrt{P_m - h_w}$	GRAVITY FACTOR P_g	FLOWING TEMP. FACTOR F_L	DEVIATION FACTOR F_{pv}	RATE OF FLOW R Mofd	GOR	Q_m
1.219	385.4	44.39	1.260	1.032	1.040	73		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS							
$(P_c)^2 = 782.2$	$(P_d)^2 = 127.1$	P_d^2	%	$(P_c - 14.4) + 14.4 =$	$(P_d)^2 = 0.207$	$(P_d)^2 =$	
$(P_c)^2 - (P_d)^2$	$(P_c)^2 - (P_w)^2$	$\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2}$	LOG []	"a"	$n = \text{LOG []}$	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS $R = \text{ANTILOG Mofd}$
784.0	625.1	1.251	.0913	.1101	.0682	1.170	85

OPEN FLOW Mofd @ 14.65 psia DELIVERABILITY 85 Mofd @ 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 13 day of November, 1982

Witness (if any)
For Commission

William E. Turner
For Company

Checked by

mailed copy John Cecil 12/17/82

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

FORM G-3
8-7-53

Annual

TYPE TEST: ☒ Deliverability ☐ Open Flow TEST DATE: 7 July 1984

COMPANY: Don Rupa LEASE: Britton WELL NO.: W#0019

COUNTY: Edwards LOCATION: Brussard SECTION: 8 TWP: 36 RND: 18 ACRES: 18

FIELD: BR RESERVOIR: BR PIPELINE CONNECTION: BR

COMPLETION DATE: 8/20/1984 PLUG BACK TOTAL DEPTH: 716194 PACKER SET AT: 14.4

CASING SIZE: WT. I.D. SET AT PERF. TO

TUBING SIZE: WT. I.D. SET AT PERF. TO

TYPE COMPLETION (Describe): Simple (wire) TYPE FLUID PRODUCTION: Oil

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

GAS GRAVITY - G_g : 1.630 % CARBON DIOXIDE: 0 % NITROGEN: 0 API GRAVITY OF LIQUID: 50

VERTICAL DEPTH (H): 3200 TYPE METER CONN.: 3200 (METER RUN) (PROVER) SIZE: 3200

SHUT-IN PRESSURE: SHUT IN 19 AT 11:00 (AM) (PM) TAKEN 7 July 1984 AT 10:00 (AM) (PM)

FLOW TEST: STARTED 7 July AT 11:00 (AM) (PM) TAKEN 7 July AT 2:00 (AM) (PM)

OBSERVED DATA DURATION OF SHUT-IN: 12 HR.

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psig	DIFF. in. (h ₁)(h ₂)	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASING WELL-HEAD PRESS		TUBING WELL-HEAD PRESS		DURATION HOURS	LIQUID PROD. Bbls.
						psia	(P _c)(P _d)(P _e) psia	psia	(P _c)(P _d)(P _e) psia		
SHUT-IN						325	339.1				
FLOW	1.375	159	3	108		162	176.4			52	

RATE OF FLOW CALCULATIONS

COEFFICIENT $\frac{(P_c)^2 - (P_d)^2}{Mcf_d}$	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_{mshw}}$	GRAVITY FACTOR P_g	FLOWING TEMP. FACTOR F_L	DEVIATION FACTOR F_{pv}	RATE OF FLOW R Mcfd	COR	G_m
1.4840	173.4	22.81	1.270	1.9568	1.012	19		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

$(P_c)^2 = 115.2$ $(P_w)^2 = 31.1$ $P_d^2 =$ 0 $(P_c - 14.4) + 14.4 =$ 158.8 $(P_d)^2 = 0.207$

$\frac{(P_c)^2 - (P_d)^2}{(P_c)^2 - (P_w)^2}$	$\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2}$	$\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2}$	LOG []	"n"	n x LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS $R =$ ANTILOG Mcfd
115.0	84.1	1.367	1.359	1.701	1.0953	1.245	24

OPEN FLOW Mcfd @ 14.65 psia DELIVERABILITY 24 Mcfd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above reports and that he has knowledge of the facts stated therein, and that said report is true and correct.

Executed this the 13 day of August, 1984 William E. Gurney For Company

Witness (if any)

Checked by

For Commission

mailed wpy Th. Cecil 8/20/84

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

REC'D MAY 2 1986 FORM 0-2 8-7-88

Annual

TYPE TEST: ☒ Deliverability ☐ Open Flow TEST DATE: 4-9-86

COMPANY: Glen Rupo LEASE: Britton WELL NO.: 1 U.#19

COUNTY: Edwards LOCATION: Kans. SECTION: 8 TWP: 26 RANG: 16 ACRES:

FIELD: RESERVOIR: PIPELINE CONNECTION: KNE Energy

COMPLETION DATE: PLUG BACK TOTAL DEPTH: PACKER SET AT:

CASING SIZE: WT. LD. SET AT PERF. TO

TUBING SIZE: WT. LD. SET AT PERF. TO

TYPE COMPLETION (Describe): Single (Gas) TYPE FLUID PRODUCTION:

PRODUCING THRU: Gas lng. RESERVOIR TEMPERATURE: °F BAR. PRESS - P_a: 14.4 Psia

GAS GRAVITY - G_g: 0.622 % CARBON DIOXIDE: WNTROGEN: API GRAVITY OF LIQUID:

VERTICAL DEPTH (H): TYPE METER CONN.: Flange (METER RUN) (PROVER) SIZE: 2"

SHUT-IN PRESSURE: SHUT IN 19 AT (AMXPM) TAKEN 4-8 1986 AT 1:00 (AMXPM)

FLOW TEST: STARTED 4-8 1986 AT 1:00 (AMXPM) TAKEN 4-9 1986 AT 2:00 (AMXPM)

OBSERVED DATA DURATION OF SHUT-IN 22 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	CASINO WELLHEAD PRESS. psig	(P _w)(P _e)(P _c) psia	TUBING WELLHEAD PRESS. psig	(P _w)(P _e)(P _c) psia	DURATION HOURS	LIQUID PROD. Bbls.
SHUT-IN						880	894.4	Pump			
FLOW	1250	166	86	50		430	444.4			25	

RATE OF FLOW CALCULATIONS

COEFFICIENT (P _e)(P _w) Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m h_w}$	GRAVITY FACTOR γ_g	FLOWING TEMP. T_F	DEVIATION FACTOR F_{pv}	RATE OF FLOW R Mcfd	GOR	Q _m
.3067	180.4	124.56	1.268	1.010	1.023	50		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_e)² = 800.0 (P_w)² = 197.5 P_d² = % (P_e - 14.4) + 14.4 = (P_e)² = 0.207 (P_d)² =

$\frac{(P_e)^2 - (P_w)^2}{(P_e)^2 - (P_d)^2}$	$(P_e)^2 - (P_w)^2$	$\left[\frac{P_e^2 - P_w^2}{P_e^2 - P_d^2} \right]$	LOG []	"n"	n x LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
799.8	602.5	1.327	.1230	.701	.0862	1.220	61

OPEN FLOW Mcfd @ 14.65 psia DELIVERABILITY 61 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 28 day of April, 1986.

T.L. McEmm
For Company

Witness (if any)

Checked by

mailed copy 4/10/86

STATE OF KANSAS - CORPORATION COMMISSION

FORM 9-2
8-7-58

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Annual
TYPE TEST: ☒ Deliverability ☐ Open Flow TEST DATE: 8-18-1987

COMPANY: Rupa LEASE: BRITTON WELL NO.: 12

COUNTY: Edwards LOCATION: 1/2 SECTION: 8 TWP: 26 RANG: 16 ACRES:

FIELD: RESERVOIR: PIPELINE CONNECTION: X-N Energy

COMPLETION DATE: PLUG BACK TOTAL DEPTH: PACKER SET AT:

CASING SIZE: WT. LD. SET AT PERF. TO:

TUBING SIZE: WT. LD. SET AT PERF. TO:

TYPE COMPLETION (Describe): Single (GAS) TYPE FLUID PRODUCTION:

PRODUCING THRU: RESERVOIR TEMPERATURE: BAR. PRESS - 14.4 Psia

GAS GRAVITY - 0.620 % CARBON DIOXIDE: 1.17 % NITROGEN: 4.82 API GRAVITY OF LIQUID:

VERTICAL DEPTH (ft): TYPE METER CONN.: F190 (METER RUN) (PRESSURE) SIZE: 2"

SHUT-IN PRESSURE: SHUT IN: 8-17 1987 AT 10:45 (AM)(PM) TAKEN: 8-17 1987 AT 10:45 (AM)(PM)

FLOW TEST: STARTED: 8-17 1987 AT 10:50 (AM)(PM) TAKEN: 8-18 1987 AT 11:30 (AM)(PM)

OBSERVED DATA

DURATION OF SHUT-IN: 22 HR.

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PRESSURE) PSIG	DIFF. in. (h ₁ - h ₂)	FLOWING TEMP. °F	WELL- HEAD TEMP. °F	CASING WELLHEAD PRESS.		TUBING WELLHEAD PRESS.		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w)(P _c)(P _d) psia	psig	(P _w)(P _c)(P _d) psia		
SHUT-IN						4188	502.4	Pump			
FLOW	1.500	231	1	88	—	2077	291.4			24 2/3	

RATE OF FLOW CALCULATIONS

COEFFICIENT (P _d) ² / (P _c) ² - (P _w) ²	(METER) (PRESSURE) PSIA	EXTENSION √ P _{max} h _w	GRAVITY FACTOR γ _g	FLOWING TEMP. FACTOR F _L	DEVIATION FACTOR F _{pv}	RATE OF FLOW R Mcf/d	GOR	Q _m
1.219	245.4	15.67	1.270	.9741	1.020	24		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

$(P_e)^2 = 252.4$		$(P_w)^2 = 84.9$		$P_d =$	%	$(P_e - 14.4) + 14.4 =$		$(P_d)^2 = 0.207$	$(P_d)^2 =$
$(P_e)^2 - (P_w)^2$	$(P_e)^2 - (P_w)^2$	$\frac{P_e^2 \cdot P_w^2}{P_e^2 - P_w^2}$	LOG []	"a"	$a =$	LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R = ANTILOG Mcf/d	
252.2	167.5	1.506	.1777	.701		.1246	1.332	32	

OPEN FLOW Mcfd @ 14.65 psia DELIVERABILITY 32 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 19 day of Aug, 1987

J. McFarlane
For Company

Witness (if any)

For Commission

Checked by

mailed copy 8/21/87
Joh. Cecil

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

TYPE TEST

☒ Deliverability☐ Open Flow

TEST DATE

No Completion Date

COMPANY

Rupp

LEASE

Drilton

WELL NO.

1

U 19

COUNTY

Edwards

LOCATION

KS

SECTION

8

TWP

26

RNG

16

ACRES

FIELD

RESERVOIR

PIPELINE CONNECTION

KNE Energy

COMPLETION DATE

PLUG BACK
TOTAL DEPTH

PACKER SET AT

CASING SIZE

WT.

LD.

SET AT

PERF.

TO

TUBING SIZE

WT.

LD.

SET AT

PERF.

TO

TYPE COMPLETION (Describe)

TYPE FLUID PRODUCTION

PRODUCING THRU

RESERVOIR TEMPERATURE F

BAR. PRESS - P_s

14.4 Psia

GAS GRAVITY - G_g

% CARBON DIOXIDE

% NITROGEN

API GRAVITY OF LIQUID

VERTICAL DEPTH (H)

TYPE METER CONN.

(METER RUN) (PROVER) SIZE

SHUT-IN PRESSURE: SHUT IN

IS

AT

(AMXPM) TAKEN

IS

AT

(AMXPM)

FLOW TEST: STARTED

IS

AT

(AMXPM) TAKEN

IS

AT

(AMXPM)

OBSERVED DATA

DURATION OF SHUT-IN HR.

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psia	DIFF. in. (h ₁ - h ₂)	FLOWING TEMP. F	WELL- HEAD TEMP. F	CASING WELL-HEAD PRESS		TUBING WELL-HEAD PRESS		DURATION HOURS	LIQUID PROD. Bbls.
						psia	(P ₁ X P ₂ X P ₃) psia	psia	(P ₁ X P ₂ X P ₃) psia		
SHUT-IN											
FLOW											

Bottom Hole Problems ✓

RATE OF FLOW CALCULATIONS

COEFFICIENT ($\frac{P_1}{P_2} \frac{P_3}{P_4}$) Mold	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_1 - P_2}$	GRAVITY FACTOR F _g	FLOWING TEMP. F _L	DEVIATION FACTOR F _{pv}	RATE OF FLOW Q Mold	GOR	Q _m

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P ₁) ²	(P ₂) ²	P ₁ ²	%	(P ₁ - 14.4) + 14.4	(P ₁) ² = 20.207	(P ₁) ²
(P ₁) ² - (P ₂) ²	(P ₁) ² - (P ₂) ²	$\frac{P_1^2 - P_2^2}{P_1^2 - P_3^2}$	LOG []	"n"	n = LOG []	ANTILOG

OPEN FLOW
DELIVERABILITY
EQUALS
Q X ANTILOG
Mold

OPEN FLOW

Mold @ 14.65 psia

DELIVERABILITY

Mold @ 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

11

day of

July

1958

T. M. F. L. L. L.

Per Company

Witness (if any)

Per Commission

Checked by

mailed copy John Cecil 7/15/58