

KANSAS CORPORATION COMMISSION

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

(See Instructions on Reverse Side)

- Open Flow
- Deliverability

Test Date:
3-24-11

API No. 15
15-00723089000

Company Osage Resources, L.L.C.		Lease Osage		Well Number 104	
County Barber	Location C-NE-NW	Section 7	TWP 33S	RNG (E/W) 14W	Acres Attributed 160
Field Aetna		Reservoir Howard		Gas Gathering Connection Osage Resources	
Completion Date 3/21/11		Plug Back Total Depth 3702		Packer Set at None	
Casing Size 5.5	Weight 15.5	Internal Diameter 4.95	Set at 5170	Perforations 3527	To 3534
Tubing Size 2.875	Weight 6.5	Internal Diameter 2.441	Set at 3567	Perforations	To
Type Completion (Describe) Plug Back		Type Fluid Production None		Pump Unit or Traveling Plunger? Yes / No Pump Unit	
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide .126		% Nitrogen 22.430	
Vertical Depth(H) 3527		Pressure Taps Flange		Gas Gravity - G _g .742	
Pressure Buildup: Shut in 3/21 20 11 at 10:15 (AM) (PM) Taken 3/24 20 11 at 10:15 (AM) (PM)					
Well on Line: Started 3/24/11 20 11 at 10:30 (AM) (PM) Taken 3/25 20 11 at 10:30 (AM) (PM)					

OBSERVED SURFACE DATA

Duration of Shut-in 72 Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Meter Prover Pressure psig (Pm)	Pressure Differential in Inches H ₂ O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P _w) or (P _i) or (P _c)		Tubing Wellhead Pressure (P _w) or (P _i) or (P _c)		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-in						1090	1104			72	
Flow	1.25	21	4.70	60	60	1057	1072			24	0

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _b) (F _p) Mcfd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_m \times h}$	Gravity Factor F _g	Flowing Temperature Factor F _t	Deviation Factor F _{pv}	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G _m
8.329	35.4	12.9	1.1609	1.0000	1.0026	125		.742

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 1219.7 ; (P_w)² = 1149.2 ; P_d = 1.8 % (P_c - 14.4) + 14.4 = _____ ; (P_a)² = 0.207 ; (P_o)² = .40

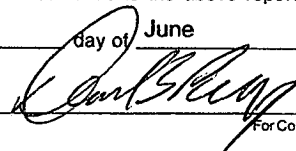
(P _c) ² - (P _a) ² or (P _c) ² - (P _o) ²	(P _c) ² - (P _w) ²	Choose formula 1 or 2: 1. P _c ² - P _a ² 2. P _c ² - P _d ² divided by: P _c ² - P _w ²	LOG of formula 1. or 2. and divide by: $\frac{P_c^2 - P_w^2}{P_c^2 - P_a^2}$	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	n x LOG []	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
1219.30	70.50	17.295	1.2379	.783	.9693	.317	1165

Open Flow Mcfd @ 14.65 psia Deliverability Mcfd @ 14.65 psia **1165**

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 20 day of June, 20 11.

Witness (if any)

For Commission



For Company

Checked by

KANSAS CORPORATION COMMISSION
MULTIPOINT BACK PRESSURE TEST

FORM G-1
8-7-58

TYPE TEST: <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special		TEST DATE: 3-24-11			
COMPANY Osage Resources, L.L.C.		LEASE Osage		WELL NO. 104	
COUNTY Barber	LOCATION C-NE-NW	SECTION Sec 7-33S-14W	TWP	RNG	ACRES 160
FIELD Aetna		RESERVOIR Howard	PIPELINE CONNECTION David Pauly		
COMPLETION DATE 3/21/11		PLUG BACK DEPTH 3702	PACKER SET AT None		
CASING SIZE 5.500		WT. 15.500	ID 4.950	SET AT 5170	PERF. TO
TUBING SIZE 2.875		WT. 6.500	ID 2.441	SET AT 3567	PERF. TO 3534
TYPE COMPLETION (Describe) Plug Back			TYPE FLUID PRODUCTION None on test		
PRODUCING THRU(Annulus/Tubing) Casing			RESERVOIR TEMPERATURE F 110	BAR PRESS - Pa 14.4-psia	
GAS GRAVITY - Gg .742		% CARBON DIOXIDE .126	% NITROGEN 22.430	API GRAVITY OF LIQUID	
VERTICAL DEPTH (ft) 3527		RECEIVED JUN 30 2011 TYPE METER CONN. Flange		METER RUN SIZE 2	
REMARKS					

KCC WICHITA
OBSERVED SURFACE DATA

RATE NO.	ORIFICE SIZE in.	(METER) PRESSURE psig	DIFF. (h _w) (h _t)	FLOWING TEMP. t.	WELLHEAD 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						1090	1104			72.00	
1.	1.250	21.00	4.70	60	60	1057	1072			1.00	
2.	1.250	29.40	10.80	60	60	1025	1039			1.00	
3.	1.250	36.80	17.80	60	60	990	1005			1.00	
4.	1.250	46.70	29.80	60	60	930	944			1.00	

FLOW STREAM ATTRIBUTES

RATE NO.	COEFFICIENT (F _p) Mcfd	(METER) PRESSURE psia	EXTENSION $\sqrt{P_m \times H_w}$	GRAVITY FACTOR Fg	FLOWING TEMP FACTOR Ft	DEVIATION FACTOR Fpv	RATE OF FLOW Q Mcfd	GOR	G _m
2.	8.329	43.8	21.75	1.1609	1.0000	1.0034	211		.742
3.	8.329	51.2	30.19	1.1609	1.0000	1.0042	293		.742
4.	8.329	61.1	42.67	1.1609	1.0000	1.0050	414		.742

PRESSURE CALCULATION

RATE NO.	Pt psia	Pc psia	Pw psia	(Pc) ² Thousands	(Pw) ² Thousands	PLOTING POINTS		% SHUT-IN 100 $\left[\frac{P_w - P_a}{P_c - P_a} \right]$
						(P _c) ² - (P _w) ² Thousands	Q Mcfd	
1.	1072.0	1104.4	1072.0	1219.7	1149.2	70.5	125.0	97.0
2.	1039.4	1104.4	1039.4	1219.7	1080.4	139.3	211.0	94.0
3.	1005.0	1104.4	1005.0	1219.7	1010.1	209.6	293.1	90.9
4.	944.6	1104.4	944.7	1219.7	892.4	327.3	414.6	85.3

INDICATED WELLHEAD OPEN FLOW

1158

Mcfd @ 14.65 psia

"n" = .783

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 herein and that said report is true and correct. Executed this the 20th day of June, 2011

Witness (if any)

For Company

For Commission

Checked by

GAS WELL BACK PRESSURE CURVE

WELL TESTER: Pauly & Co.

TEST DATE: 3-24-11

