

KANSAS CORPORATION COMMISSION
ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

FORM G-2
 (Rev.8/98)

TYPE TEST:

- ☒ Open Flow
☒ Deliverability

TEST DATE: 11/21/2001 API No. 15-129-21615

Company Pioneer Oil Company		Lease Lemon		Well Number 1-827	
County Morton	Location SE NE NE		Section 27 32s	TWP 41w	RNG(E/W) Acres Attributed
Field Richfield	Reservoir Wab/Topeka		Gas Gathering Connection Anadarko		
Completion Date		Plug Back Total Depth 3250		Packer Set at	
Casing Size 4.500	Weight 10.500	Internal Diameter 4.052	Set at 3342	Perforations 3150	To 3158
Tubing Size 2.375	Weight 4.700	Internal Diameter 1.995	Set at 3204	Perforations	To
Type Completion (Describe) single gas		Type Fluid Production water		Pump Unit or Traveling Plunger? pumping unit	
Producing Thru (Annulus/Tubing) annulus		% Carbon Dioxide .011		% Nitrogen 28.591	Gas Gravity- Gg .859
Vertical Depth (ft) 3154		Pressure Taps flange		Meter Run Size 2.067	
Pressure Buildup: Shut in		11/17/2001 @ 1000		TAKEN	11/20/2001 @ 1045
Well on Line: Started		11/20/2001 @ 1045		TAKEN	11/21/2001 @ 0945

OBSERVED SURFACE DATA

Static/ Dynamic Property	Orifice Size in.	Meter Pressure psig	Pressure Diff. In. H ₂ O	Flowing Temp. t.	WellHead Temp. t.	Casing WellHead Press. (P _w) (P _t) (P _c)		Tubing WellHead Press. (P _w) (P _t) (P _c)		Duration (Hours)	Liquid Prod. Barrels
						psig	psia	psig	psia		
Shut-in						102	116				
Flow	.500	7.1	24.60	46		78	92				

FLOW STREAM ATTRIBUTES

COEFFICIENT (F _b) Mcfd	(METER) PRESSURE psia	EXTENSION $\sqrt{P_m \times H_w}$	GRAVITY FACTOR Fg	FLOWING TEMP FACTOR Ft	DEVIATION FACTOR Fpv	RATE OF FLOW R Mcfd	GOR	G _m
1.214	21.5	23.00	1.0790	1.0137	1.0018	30		.859

(OPEN FLOW)(DELIVERABILITY) CALCULATIONS

(OPEN FLOW) DELIVERABILITY CALCULATIONS							(Pa) ² = 0.207
(Pc) ² = 13.5	(Pw) ² = 8.5	Pd = 6.1	%	(Pc - 14.4) + 14.4 =	(Pd) ² = .05		
(Pc) ² - (Pa) ² or (Pc) ² - (Pd) ²	(Pc) ² - (Pw) ²	$\left[\frac{(Pc)^2 - (Pa)^2}{(Pc)^2 - (Pd)^2} \right]$ or $\left[\frac{(Pc)^2 - (Pd)^2}{(Pc)^2 - (Pw)^2} \right]$	LOG	Backpressure Curve Slope "n" ---- or ---- Assigned Standard Slope	n x LOG	Antilog	
						Open Flow Deliverability = R x Antilog Mcf/d	
13.34	5.01	2.665	.4256	.972	.4137	79	
13.50	5.01	2.696	.4307	.972	.4186	80	

OPEN FLOW 79 Mcfd @ 14.65 psia DELIVERABILITY 80 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 herein and that said report is true and correct. Executed this the 21 day of Nov, 2001

Witness (if any)

For Commission

For Company

Checked by

KANSAS CORPORATION COMMISSION
MULTIPOINT BACK PRESSURE TEST

FORM G-1
8-7-58

TYPE TEST: ☒ Initial ☐ Annual ☐ Special		TEST DATE: 11/20/2001	
COMPANY Pioneer Oil Company		LEASE Lemon	
COUNTY Morton		WELL NO. 1-827	
LOCATION SE NE NE	SECTION 27	TWP 32s	RNG 41w
FIELD Richfield	RESERVOIR Wab/Topeka	PIPELINE CONNECTION Anadarko	
COMPLETION DATE	PLUG BACK DEPTH 3250	PACKER SET AT	
	TOTAL DEPTH 3350		
CASING SIZE 4.500	WT. 10.500	ID 4.052	SET AT 3342
			PERF. 3150
			TO 3158
TUBING SIZE 2.375	WT. 4.700	ID 1.995	SET AT 3204
			PERF.
			TO
TYPE COMPLETION (Describe) single gas		TYPE FLUID PRODUCTION water	
PRODUCING THRU (Annulus/Tubing) annulus		RESERVOIR TEMPERATURE F 111	
		BAR PRESS - Pa 14.4 psia	
GAS GRAVITY - Gg .859	% CARBON DIOXIDE .011	% NITROGEN 28.591	
		API GRAVITY OF LIQUID	
VERTICAL DEPTH (H) 3154		TYPE METER CONN. flange	
		METER RUN SIZE 2.067	
REMARKS			

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						102	116				
1.	.500	7.50	4.30	69		97	111			1.00	
2.	.500	7.98	30.31	68		91	105			1.00	
3.	.500	8.14	35.66	68		86	100			1.00	
4.	.500	8.17	64.21	68		80	94			1.00	

FLOW STREAM ATTRIBUTES

RATE NO.	COEFFICIENT (F _b) 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
1.	1.214	21.9	9.70	1.0790	.9915	1.0019	12		.859
2.	1.214	22.4	26.04	1.0790	.9924	1.0020	33		.859
3.	1.214	22.5	28.35	1.0790	.9924	1.0020	36		.859
4.	1.214	22.6	38.07	1.0790	.9924	1.0020	49		.859

PRESSURE CALCULATION

RATE NO.	P _t psia	P _c psia	P _w psia	(P _c) ² Thousands	(P _w) 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.	111.4	116.4	111.4	13.5	12.4	1.1	12.6	95.1
2.	105.4	116.4	105.4	13.5	11.1	2.4	33.9	89.2
3.	100.4	116.4	100.4	13.5	10.1	3.5	36.9	84.3
4.	94.4	116.4	94.5	13.5	8.9	4.6	49.6	78.5

INDICATED WELLHEAD OPEN FLOW

138

Mcfd @ 14.65 psia

"n" = .972

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 21 day of Nov, 20 01

Witness (if any)

For Commission

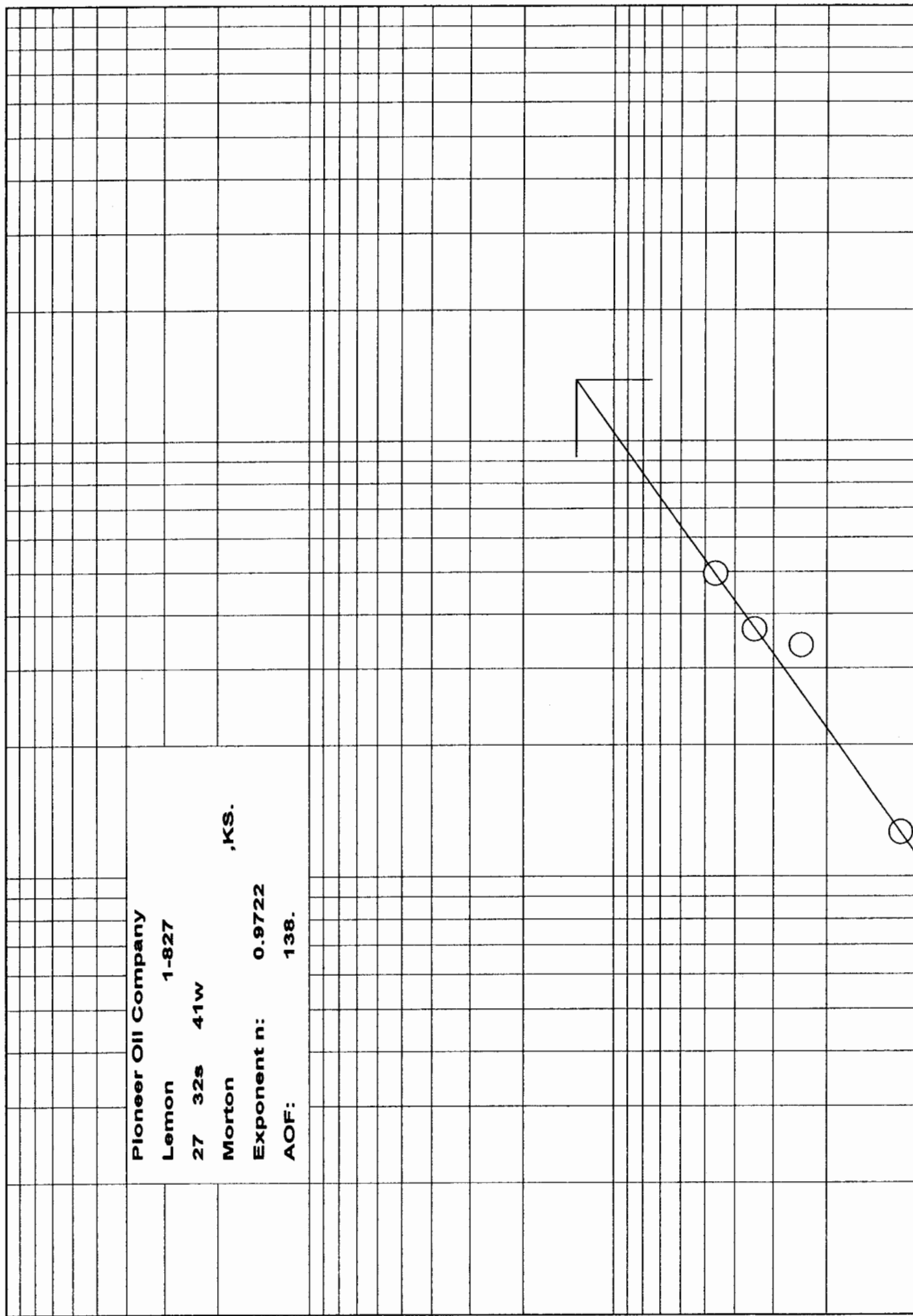
For Company

Checked by

WELL TESTER: Trilobite Testing

TEST DATE: 11/20/2001

GAS WELL BACK PRESSURE CURVE



Pioneer Oil Company

Lemon 1-827

27 32s 41w

Morton

,KS.

Exponent n: 0.9722

AOF: 138.

NATURAL GAS ANALYSIS REPORT

Sampled by:

Trilobite Testing, L. L. C.
Hays, Kansas
Scott City, Kansas
Phone: 800-728-5369
Fax: 913-625-5620

Analyzed by:

Caraway Analytical, Inc
P. O. Box 2137
Liberal, Kansas 67905
Phone: 316-624-5389
Fax: 316-626-7108

Date: 2/27/01 **Time:** 12:00 PM

Sample From: Lemon 1-827 DST 1
Producer: Pioneer Oil

Pressure:
Temperature:

Date: 2/27/01 **Time:** 12:00 PM

Time:
Sampler: Mike Colantonio
Source:

County: Morton
State: Kansas
Formation: Topeka

	Mole %	GPM
Helium	He: 0.835	0.000
Hydrogen	H2: 0.027	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 28.591	0.000
Carbon Dioxide	CO2: 0.011	0.000
Methane	C1: 51.836	0.000
Ethane	C2: 7.419	1.984
Propane	C3: 5.891	1.623
Iso Butane	iC4: 0.851	0.278
Normal Butane	nC4: 2.401	0.757
Iso Pentane	iC5: 0.595	0.218
Normal Pentane	nC5: 0.752	0.272
Hexanes Plus	C6+: 0.791	0.345

TOTAL: 100.000 5.478

Z Fact: 0.9972

SP.GR.: 0.8588

BTU (SAT): 991.3 @ 14.73 psia

BTU (DRY): 1008.8 @ 14.73 psia

OCTANE RATING: 84.8

COMMENTS:

0.000

FieldNotes Field Measurements

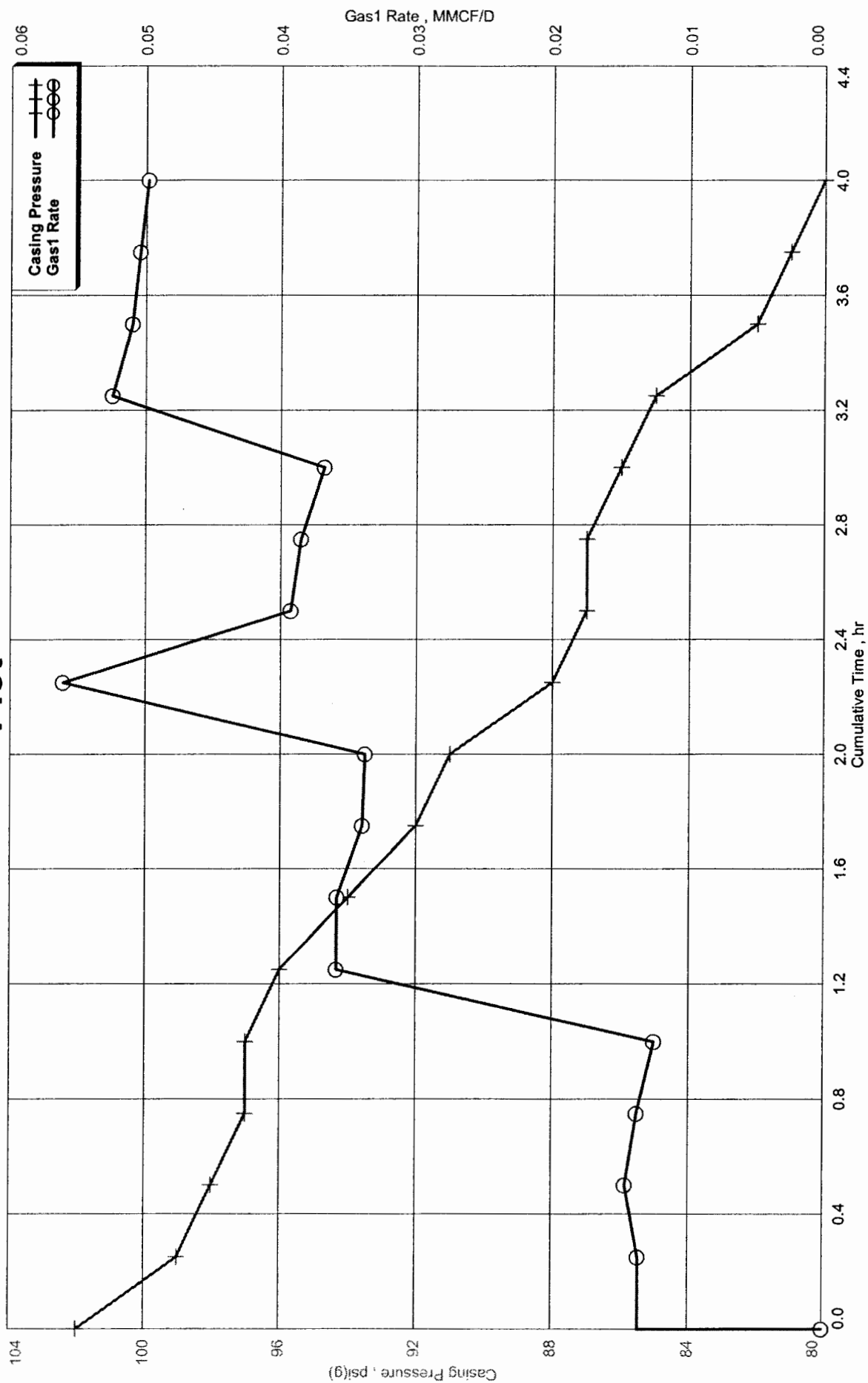
Date	Clock	Time	Comment	Casing	Diff1	Static1	Meter1	Gas1
yyyy/mm/d	hh:mm:ss	psi(g)	In of H2O	Pres	psi(g)	°F	MMCF/D	
1	2001/11/20	10:43:00	shutin					
2		10:43:00		102.00	0.00	0.00	0.00	0.000
3		10:58:00		99.00	5.05	7.73	69.00	0.014
4		11:13:00		98.00	5.83	7.58	69.00	0.015
5		11:28:00		97.00	5.23	7.39	69.00	0.014
6		11:43:00	1st pt					
7		11:43:00		97.00	4.31	7.48	69.00	0.013
8		11:58:00		96.00	34.59	7.70	69.00	0.036
9		12:13:00		94.00	34.54	7.64	68.00	0.036
10		12:28:00		92.00	30.73	7.92	68.00	0.034
11		12:43:00	2nd pt					
12		12:43:00		91.00	30.31	7.98	68.00	0.034
13		12:58:00		88.00	80.91	8.04	68.00	0.056
14		13:13:00		87.00	40.88	7.92	68.00	0.039
15		13:28:00		87.00	39.76	7.70	68.00	0.039
16		13:43:00	3rd pt					
17		13:43:00		86.00	35.66	8.14	68.00	0.037
18		13:58:00		85.00	70.92	8.17	68.00	0.052
19		14:13:00		82.00	67.21	8.14	68.00	0.051
20		14:28:00		81.00	65.81	8.14	68.00	0.050
21		14:43:00	4th pt					
22		14:43:00		80.00	64.21	8.17	68.00	0.050
23	2001/11/21	09:43:00	1pt					
24		09:43:00		78.00	24.59	7.08	46.00	0.030

2001/11/20 10:43:00 To 2001/11/21 09:43:00
Gas 0.006 Cum. 0.006 MMCF

Pioneer Oil Company
 SE NE NE 27 32s 41w Morton KS
 Start Test Date: 2001/11/20

Lemon 1-827

Plot



Plot

