

Initial Closed In Time		30 Minutes		 BOMIN TESTING BOX 782 LIBERAL, KANSAS	Date	7-10-67	
Tool Open Flow Period		10-60 Minutes			Ticket No.	3834	
Final Closed In Time		30 Minutes			DISTRICT	Liberal, Kansas	
Depth Top Gauge	4332 Ft.	Blanked Off	No		Kind of Job	Open Hole Test	
Recorder No.	2772	12 Hr. Clock		CONTRACTOR	Company Tools		
Pressure Readings	Field	Office Corrected		HOLE & TOOL DATA			
Initial Hydro Mud Pressure	A- 2246	2248		Elevation	2468' DF	Top Packer Depth	4322'
Initial Closed in Pres.	B- 88	70		Total Depth	4352'	Bottom Packer Depth	4327'
Initial Flow Pres.	C- 44	41		Casing or Hole Size	7-7/8"	Size & Type Wall Packer	6 1/2 B.T.
Final Flow Pres.	D- 44	41		Liner or Rathole Size		Size Bottom Choke	1/2"
Final Closed in Pres.	E- 44	41				Size Surface Choke	1"
Final Hydro Mud Pressure	F- 2213	2216		Interval Tested	4327'-4352'	ID & Length Air Chamber	
Depth Bottom Gauge	4352 Ft.	Blanked Off	Yes	Formation Tested	Lansing	ID & Length Drill Collars	
Recorder No.	96	4 Hr. Clock		Est. Gauge Depth Temp.		Size Drill Pipe	4 1/2 XH
Pressure Readings	Field	Office Corrected		MUD DATA Weight	9.3	Viscosity	60
Initial Hydro Mud Pressure				All depths measured from	DF	No. Folders Reproduced	7
Initial Closed in Pres.				REMARKS: 10 minute Pre-flow with very			
Initial Flow Pres.				weak blow throughout. Re-open tool			
Final Flow Pres.				after ICIP with weak blow throughout			
Final Closed in Pres.				test.			
Final Hydro Mud Pressure							
Recovered	60	Feet of	Drilling Mud (No Shows)				
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Witnessed By	Bill Atkinson			Tester	Tom Brown		
Amount-Type of Cushion				Tester	Tom Brown		

LOCATION
 FIELD
 COUNTY Seward
 STATE Kansas

LEASE NAME Adams
 WELL NO. O#1
 TEST NO. #1
 LEASE OWNER Petroleum, Inc.
 OWNERS DISTRICT Liberal, Kansas

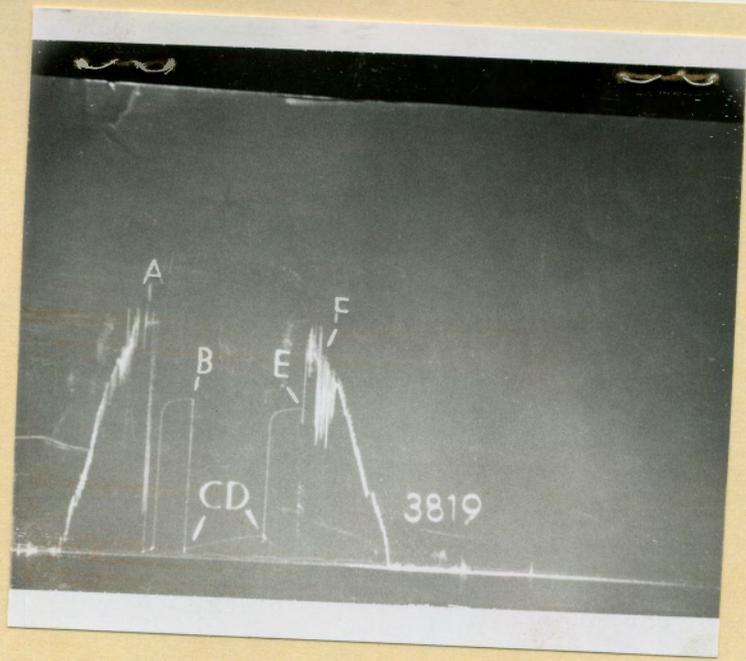
4327'-4352'

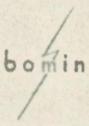
BOMIN TESTING, INC.

BOX 782

LIBERAL, KANSAS

LEASE NAME	Adams	WELL NO.	#1	TEST NO.	#2	LEASE OWNER	Petroleum, Inc.	OWNERS DISTRICT	Oklahoma City
LOCATION	Sec. 24 - 34 - R31W	FIELD		COUNTY	Seward	STATE	Kansas		



Initial Closed in Time	30 Minutes	 BOMIN TESTING BOX 782 LIBERAL, KANSAS	Date	7-13-67			
Tool Open Flow Period	10-75 Minutes		Ticket No.	3819			
Final Closed In Time	30 Minutes		DISTRICT	Liberal, Kansas			
Depth Top Gauge	4900 Ft.	Blanked Off	No	Kind of Job	Open Hole Test		
Recorder No.	2896	12 Hr. Clock	CONTRACTOR Garvey #20				
Pressure Readings	Field	Office Corrected	HOLE & TOOL DATA				
Initial Hydro Mud Pressure	A- 2338	2341	Elevation	2468'	Top Packer Depth	4913'	
Initial Closed in Pres.	B- 1708	1715	Total Depth	4962'	Bottom Packer Depth	4918'	
Initial Flow Pres.	C- 103	101	Casing or Hole Size	7-7/8"	Size & Type Wall Packer	6 1/2 B.T.	
Final Flow Pres.	D- 279	272	Liner or Rathole Size		Size Bottom Choke	1/2"	
Final Closed in Pres.	E- 1687	1683			Size Surface Choke	1"	
Final Hydro Mud Pressure	F- 2327	2330	Interval Tested	4918'-4962'	ID & Length Air Chamber		
Depth Bottom Gauge	4962 Ft.	Blanked Off	Yes	Formation Tested	Kansas City	ID & Length Drill Collars	2 1/4" x 510'
Recorder No.	87	4 Hr. Clock		Est. Gauge Depth Temp.		Size Drill Pipe	4 1/2 XH
Pressure Readings	Field	Office Corrected		MUD DATA Weight	9.0	Viscosity	42
Initial Hydro Mud Pressure				All depths measured from	KB	No. Folders Reproduced	7
Initial Closed in Pres.				REMARKS: 10 minute Pre-flow with weak			
Initial Flow Pres.				blow increasing to good blow. Open			
Final Flow Pres.				tool after ICIP with weak blow increas-			
Final Closed in Pres.				ing to strong blow.			
Final Hydro Mud Pressure							
Recovered	30	Feet of	S.G. Cut Mud				
Recovered	450	Feet of	S.G. Cut Mud Water				
Recovered		Feet of					
Recovered		Feet of					
Witnessed By	W. R. Atkinson			Tester	Frank Brown		
Amount-Type of Cushion							

LOCATION Sec. 24 - 34 - R31W
 FIELD
 COUNTY Seward
 STATE Kansas

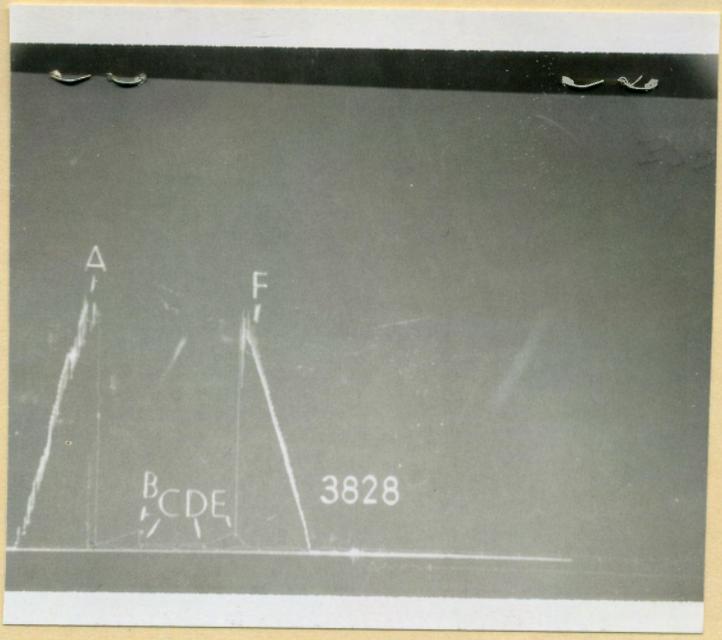
LEASE NAME Adams
 #1
 WELL NO. 49181-49621
 #2
 TEST NO.
 LEASE OWNER Petroleum, Inc.
 OWNERS DISTRICT Oklahoma City

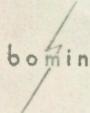
BOMIN TESTING, INC.

BOX 782

LIBERAL, KANSAS

Adams LEASE NAME	#1 WELL NO.	#3 TEST NO.	50321-50751	Petroleum, Inc. LEASE OWNER	OKlahoma City, Okla. OWNERS DISTRICT
LOCATION Sec. 25 Twp 34 - R31W	FIELD	COUNTY Seward	STATE Kansas		



Initial Closed in Time	30 Minutes	 BOMIN TESTING BOX 782 LIBERAL, KANSAS	Date	7-14-67			
Tool Open Flow Period	10-60 Minutes		Ticket No.	3828			
Final Closed In Time	30 Minutes		DISTRICT	Liberal, Kansas			
Depth Top Gauge	5045 Ft.		Blanked Off	No	Kind of Job	Open Hole Test	
Recorder No.	2896	12 Hr. Clock	CONTRACTOR Garvey #20				
Pressure Readings	Field	Office Corrected	HOLE & TOOL DATA				
Initial Hydro Mud Pressure	A- 2474	2475	Elevation	2468'	Top Packer Depth	5027'	
Initial Closed in Pres.	B- 248	230	Total Depth	5075'	Bottom Packer Depth	5032'	
Initial Flow Pres.	C- 51	64	Casing or Hole Size	7-7/8"	Size & Type Wall Packer	6 1/2 B.T.	
Final Flow Pres.	D- 62	74	Liner or Rathole Size		Size Bottom Choke	1/2"	
Final Closed in Pres.	E- 238	220			Size Surface Choke	1"	
Final Hydro Mud Pressure	F- 2464	2467	Interval Tested	5032'-5075'	ID & Length Air Chamber		
Depth Bottom Gauge	5075 Ft.	Blanked Off	Yes	Formation Tested	Marmatton	ID & Length Drill Collars	2 1/4" x 520'
Recorder No.	87	4 Hr. Clock	Est. Gauge Depth Temp.		Size Drill Pipe	4 1/2 FH	
Pressure Readings	Field	Office Corrected	MUD DATA Weight	9.1	Viscosity	48	
Initial Hydro Mud Pressure			All depths measured from	KB	No. Folders Reproduced	7	
Initial Closed in Pres.			REMARKS: 10 minute Pre-flow with weak				
Initial Flow Pres.			blow. Open tool after ICIP with good				
Final Flow Pres.			blow increasing to strong blow.				
Final Closed in Pres.							
Final Hydro Mud Pressure							
Recovered	110 Feet of S. Oil Cut Mud						
Recovered	Feet of						
Recovered	Feet of						
Recovered	Feet of						
Witnessed By							
Amount-Type of Cushion	Tester Frank Brown						

LOCATION Sec. 25 Twp 34 - R31W
 FIELD
 COUNTY Seward
 STATE Kansas

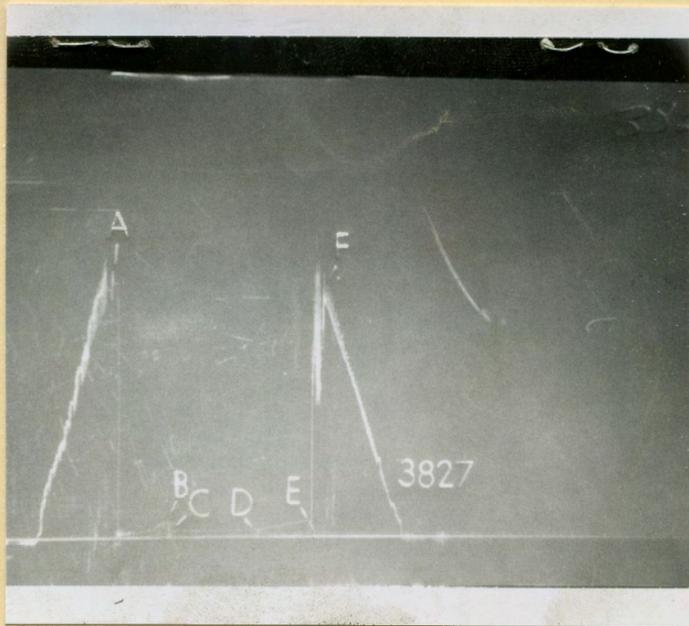
Adams
 LEASE NAME
 #1
 WELL NO.
 #3
 TEST NO.
 5032'-5075'
 Petroleum, Inc.
 LEASE OWNER
 Oklahoma City, Okla.
 OWNERS DISTRICT

BOMIN TESTING, INC.

BOX 782

LIBERAL, KANSAS

LEASE NAME	Adams	WELL NO.	0-1	TEST NO.	55421-5701 #4	LEASE OWNER	Petroleum, Inc.	OWNERS DISTRICT	Oklahoma City
LOCATION	Sec. 25 Twp - 34R - 31W	FIELD				COUNTY	Seward	STATE	Kansas



Initial Closed in Time	32 Minutes	 BOMIN TESTING BOX 782 LIBERAL, KANSAS	Date	7-18-67
Tool Open Flow Period	15-90 Minutes		Ticket No.	3827
Final Closed In Time	45 Minutes		DISTRICT	Liberal, Kansas
Depth Top Gauge	5552 Ft.		Blanked Off No	Kind of Job
Recorder No.	2896	12 Hr. Clock	CONTRACTOR	Garvey #20
Pressure Readings	Field	Office Corrected	HOLE & TOOL DATA	
Initial Hydro Mud Pressure	A- 2770	2773	Elevation	2468' DF Top Packer Depth 5537'
Initial Closed in Pres.	B- 207	165	Total Depth	5701' Bottom Packer Depth 5542'
Initial Flow Pres.	C- 78	82	Casing or Hole Size	7-7/8" Size & Type Wall Packer 6 1/2 B.T.
Final Flow Pres.	D- 93	103	Liner or Rathole Size	Size Bottom Choke 1 1/2"
Final Closed in Pres.	E- 207	168		Size Surface Choke 1"
Final Hydro Mud Pressure	F- 2759	2762	Interval Tested	5542' - 5701' ID & Length Air Chamber
Depth Bottom Gauge	5701 Ft.	Blanked Off Yes	Formation Tested	Morrow ID & Length Drill Collars 2 1/2" x 450'
Recorder No.	87	4 Hr. Clock	Est. Gauge Depth Temp.	128 Size Drill Pipe 4 1/2 FH
Pressure Readings	Field	Office Corrected	MUD DATA Weight	9.1 Viscosity 45
Initial Hydro Mud Pressure			All depths measured from	DF No. Folders Reproduced 7
Initial Closed in Pres.			REMARKS: 15 minute Pre-flow with weak	
Initial Flow Pres.			blow. Open tool after ICIP with weak	
Final Flow Pres.			blow increasing to good. Good blow	
Final Closed in Pres.			throughout rest of test.	
Final Hydro Mud Pressure				
Recovered	160	Feet of	Gas Cut Mud	
Recovered		Feet of		
Recovered		Feet of		
Recovered		Feet of		
Witnessed By	W. R. Atkinson			
Amount-Type of Cushion		Tester	Frank Brown	

LOCATION Sec. 25 Twp - 34R - 31W FIELD

Adams
LEASE NAME

O-1
WELL NO.

#4
TEST NO.

55421-5701'

Petroleum, Inc.
LEASE OWNER

COUNTY Seward

STATE Kansas

Oklahoma City
OWNERS DISTRICT

BOMIN TESTING, INC.

BOX 782

LIBERAL, KANSAS

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FORMATION EVALUATION ANALYSIS**SUMMARY:**

Although productive of hydrocarbons, the St. Louis interval tested was partially depleted during the drill stem test. This reservoir is of limited size and a commercial completion does not appear possible. Extrapolation of the closed in pressures plotted versus $(T/\Delta T +)$ show an initial static reservoir pressure of 1820 psia and a final static pressure of 1255 psia, or a decline of 565 psi during the test flow period of 100 minutes. No well bore damage was present. A transmissibility value of 130 md-ft/cp was calculated for a permeability of 15 to 13 md for a productive interval of 12 to 5 feet respectively.

STATIC RESERVOIR PRESSURE:

The static reservoir pressure was 1820 psia at the end of the initial closed in period and 1255 psia at the end of the final closed in period.

TRANSMISSIBILITY:

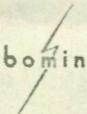
A transmissibility of 130 md-ft/cp was calculated from the test data. The resultant permeability is approximately 13 md for a 5 foot thick interval and 5 md for a 12 foot thick interval.

WELL BORE DAMAGE:

The formation exhibited no well bore damage at the end of the test period.

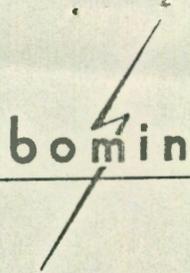
RADIUS OF INVESTIGATION:

The approximate radius of investigation for this test was 22 feet.

Initial Closed in Time		30 Minutes		 BOMIN TESTING BOX 782 LIBERAL, KANSAS	Date	7-21-67		
Tool Open Flow Period		10-90 Minutes			Ticket No.	3836		
Final Closed In Time		45 Minutes			DISTRICT Liberal, Kansas			
Depth Top Gauge	6027 Ft.	Blanked Off	No		Kind of Job OpenHole Test			
Recorder No.	2772	12 Hr. Clock	CONTRACTOR Garvey Rig #20					
Pressure Readings	Field	Office Corrected	HOLE & TOOL DATA					
Initial Hydro Mud Pressure	A- 3013	3016	Elevation	2470' KB	Top Packer Depth	6007'		
Initial Closed in Pres.	B- 1741	1750	Total Depth	6080'		Bottom Packer Depth	6012'	
Initial Flow Pres.	C- 229	239	Casing or Hole Size	7-7/8"		Size & Type Wall Packer	6 1/2 B.T.	
Final Flow Pres.	D- 262	246	Liner or Rathole Size	Size Bottom Choke 1/2"				
Final Closed in Pres.	E- 1115	1104	Size Surface Choke 1"					
Final Hydro Mud Pressure	F- 2969	2972	Interval Tested	6012'-6080'		ID & Length Air Chamber		
Depth Bottom Gauge	6080 Ft.	Blanked Off	Yes	Formation Tested	St. Louis		ID & Length Drill Collars 2 1/2" x 510'	
Recorder No.	96	4 Hr. Clock	Est. Gauge Depth Temp.		132	Size Drill Pipe	4 1/2 XH	
Pressure Readings	Field	Office Corrected	MUD DATA Weight	9.4		Viscosity	57	
Initial Hydro Mud Pressure			All depths measured from	KB		No. Folders Reproduced	7	
Initial Closed in Pres.	REMARKS: Open tool with gas to surface							
Initial Flow Pres.	in 3 minutes. 5 Min. - 205 MCF;							
Final Flow Pres.	10 Min. - 255 MCF; Shut tool in. Re-							
Final Closed in Pres.	open tool with readings:							
Final Hydro Mud Pressure	5 Min. - 847 MCF; 10 Min. - 802 MCF;							
15 Min. - 653 MCF; 30 Min. - 542 MCF; 45 Min. - 385 MCF; 70M. = 319MCF								
20 Min. - 599 MCF; 35 Min. - 415 MCF; 50 Min. - 360 MCF; 75M. = 319MCF								
25 Min. - 571 MCF; 40 Min. - 400 MCF; 55 Min. - 353 MCF; 80M. = 301MCF								
60 Min. - 336 MCF; 85M. = 301MCF								
65 Min. - 336 MCF; 90M. = 301MCF								
Recovered	860		Feet of	Hvy Gas Cut Oil				
Recovered	Feet of							
Recovered	Feet of							
Recovered	Feet of							
Witnessed By	W. R. Atkinson							
Amount-Type of Cushion				Tester	Tom Brown			

LOCATION Sec. 25 - 34S - 31W
 FIELD S. Kneeland
 COUNTY Seward
 STATE Kansas

LEASE NAME Adams
 O#1
 WELL NO. 6012'-6080'
 TEST NO. #5
 LEASE OWNER Petroleum, Inc.
 OWNERS DISTRICT Oklahoma City



bomin

BOMIN TESTING, INC.

P. O. BOX 782

LIBERAL, KANSAS 67901

PRESSURE DATA

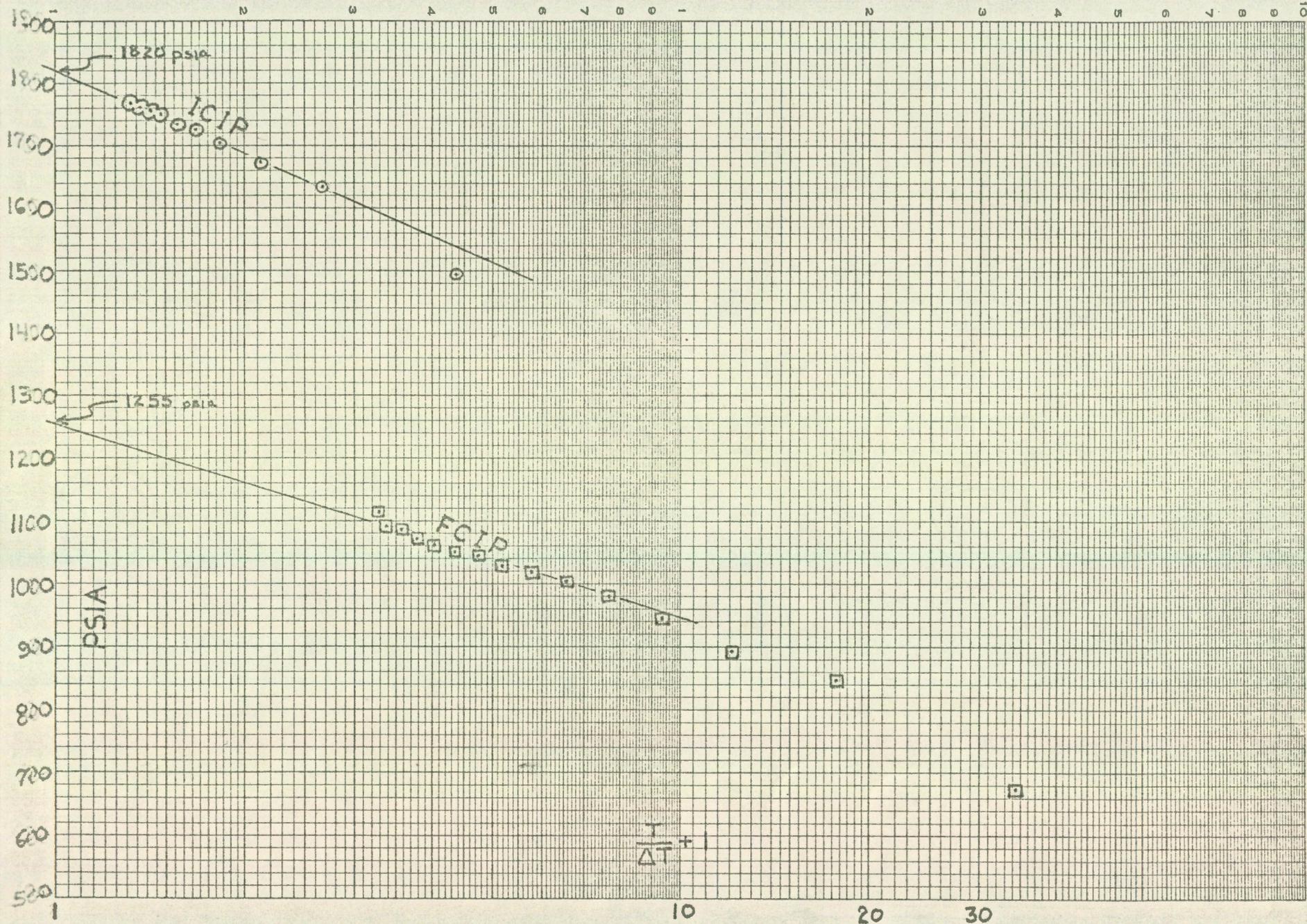
INITIAL CLOSED IN PERIOD

FINAL CLOSED IN PERIOD

ΔT (Minutes)	$\frac{t}{\Delta t} + 1$	Pressure		$\frac{t'}{\Delta t} + 1$	Pressure	
		PSIA	PSIA $\times 10^3$		PSIA	PSIA $\times 10^3$
0	∞	366		∞	260	
3	4.33	1493		34.33	674	
6	2.67	1637		17.67	848	
9	2.11	1674		12.11	896	
12	1.83	1704		9.33	943	
15	1.66	1726		7.67	980	
18	1.56	1737		6.56	1005	
21	1.48	1748		5.77	1020	
24	1.42	1759		5.17	1029	
27	1.37	1762		4.71	1045	
30	1.33	1764		4.33	1051	
33				4.03	1060	
36				3.78	1073	
39				3.57	1085	
42				3.39	1091	
45				3.23	1118	
48						
51						
54						
57						
60						
63						
66						
69						
72						
75						
78						
81						
84						
87						
90						

t = 10

t' = 100





COMPANY Petroleum, Inc.

Date 7-21-67

LEASE & WELL NO. Adams O#1

Test No. #5 (6012'-6080')

Pressure	Time	P.S.I.	Ticket No. 3836
I.H.M.P.		3016	
I.S.I.P.	30	1750	Packer Set 6007'-6012'
Flow P.	10-90	239-246	
B.H.P.	45	1104	Recorder No. 2772
F.H.M.P.		2972	

3 Min.
I.S.I.P.

3 Min.
FLOW P.

3 Min.
B.H.P.

	Def	P.S.I.	Def	P.S.I.	Def	P.S.I.
P0	160	352	198	435	112	246
P1	670	1479	182	400	300	660
P2	735	1623	172	378	379	834
P3	750	1657	160	352	401	882
P4	765	1690	160	352	422	929
P5	775	1712	109	239	439	966
P6	780	1723	109	239	450	991
P7	785	1734	104	228	457	1006
P8	790	1745	099	217	461	1015
P9	791	1748	092	202	468	1031
P10	792	1750	090	198	471	1037
P11			090	198	475	1046
P12			090	198	481	1059
P13			090	198	486	1071
P14			090	198	489	1077
P15			090	198	501	1104
P16			092	202		
P17			092	202		
P18			094	206		
P19			094	206		
P20			096	211		
P21			096	211		
P22			099	217		
P23			099	217		
P24			099	217		
P25			100	220		
P26			102	224		
P27			103	226		
P28			104	228		
P29			106	233		
P30			107	235		
P31			109	239		
P32			110	242		
P33			111	244		
P34			112	246		
P35			112	246		
P36						
P37						
P38						
P39						
P40						
P41						
P42						
P43						
P44						

P0 - P4 = Pre-Flow