

NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b₁	= Approximate Radius of Investigation (Net Pay Zone h ₁)	Feet
D.R.	= Damage Ratio	—
EI	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h₁	= Net Pay Thickness	Feet
K	= Permeability	md
K₁	= Permeability (From Net Pay Zone h ₁)	md
m	= Slope Extrapolated Pressure Plot (Psi ² /cycle Gas)	psi/cycle
OF₁	= Maximum Indicated Flow Rate	MCF/D
OF₂	= Minimum Indicated Flow Rate	MCF/D
OF₃	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF₄	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
P_F	= Final Flow Pressure	Psig.
P_{ot}	= Potentiometric Surface (Fresh Water *)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q₁	= Theoretical Production w/Damage Removed	bbls/day
Q_g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r_w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t_o	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	—
μ	= Viscosity Gas or Liquid	CP
Log	= Common Log	

* Potentiometric Surface Reference to Rotary Table When Elevation Not Given,
Fresh Water Corrected to 100° F.

Flow Time	1st 5	Min.	2nd 60	Min.	Date	11-15-62	Ticket Number	358431	S
Closed In Press. Time	1st 30	Min.	2nd 30	Min.	Kind of Job	OPEN HOLE	Halliburton District	HAYS	
Pressure Readings	Field		Office Corrected		Tester	K. L. GROVES	Witness		
Depth Top Gauge	3154	Ft.	NO	Blanked Off	Drilling Contractor	PEEL BROTHERS INCORPORATED			
BT. P.R.D. No.	294		12	Hour Clock	Elevation	-	Top Packer	3159'	
Initial Hydro Mud Pressure	-		1700		Total Depth	3205'	Bottom Packer	-	
Initial Closed in Pres.	-		446		Interval Tested	3159-3205'	Formation Tested	KANSAS CITY	
Initial Flow Pres.	-	1	8		Casing or Hole Size	7 7/8"	Casing Perfs. { Top	-	
	-	2	13				Bot.	-	
Final Flow Pres.	-	1	10		Surface Choke	1/4"	Bottom Choke	1"	
	-	2	37						
Final Closed in Pres.	-		385		Size & Kind Drill Pipe	4 1/2"	Drill Collars Above Tester	-	I.D. - LENGTH
Final Hydro Mud Pressure	-		1700		Mud Weight	9.9	Mud Viscosity	46	
Depth Cen. Gauge	3201	Ft.	YES	Blanked Off	Temperature	92	Anchor Size & Length	ID 5" OD 3.84" X 46'	
BT. P.R.D. No.	374		12	Hour Clock	Depths Mea. From	-	Depth of Tester Valve	3138	Ft.
Initial Hydro Mud Pres.	1735		1733		Cushion	-	Depth Back Pres. Valve	-	Ft.
Initial Closed in Pres.	475		475		Recovered	65	Feet of Watery mud		
Initial Flow Pres.	-	1	36		Recovered		Feet of		
	15	2	45		Recovered		Feet of		
Final Flow Pres.	-	1	39		Recovered		Feet of		
	60	2	64		Recovered		Feet of		
Final Closed in Pres.	405		412		Oil A.P.I. Gravity	-	Water Spec. Gravity	-	
Final Hydro Mud Pres.	1710		1722		Gas Gravity	-	Surface Pressure	-	psi
Depth Bot. Gauge		Ft.		Blanked Off	Tool Opened	11-14-62 11:30 PM	Tool Closed	11-15-62 1:35	A.M. P.M.
BT. P.R.D. No.				Hour Clock	Remarks	Opened tool for a 5 minute flow. Closed in			
Initial Hydro Mud Pres.						for a 30 minute Initial Closed in Pressure. Re-			
Initial Closed in Pres.						opened tool with a fair blow throughout test. Closed			
Initial Flow Pres.		1				in for a 30 minute Final Closed in Pressure.			
Final Flow Pres.		2							
Final Closed in Pres.									
Final Hydro Mud Pres.									

FORMATION TEST DATA

5

HODSON

Lease Name

4-W

1

CITIES SERVICE PETROLEUM COMPANY

Owner's District

34-5-16 W

Legal Location
Sec. - Twp. - Rng.
34-8-16

Well No.

Test No.

Field Area

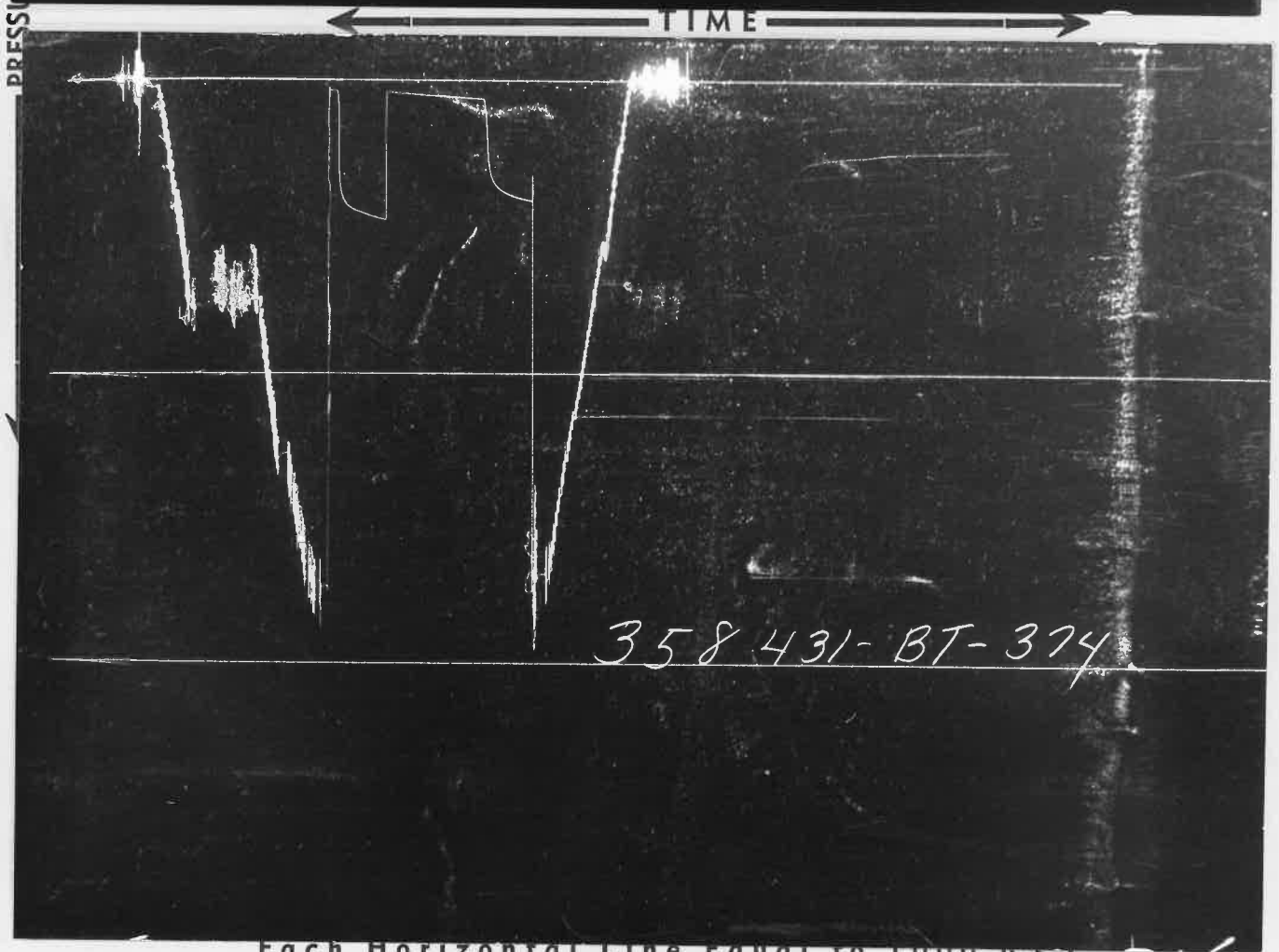
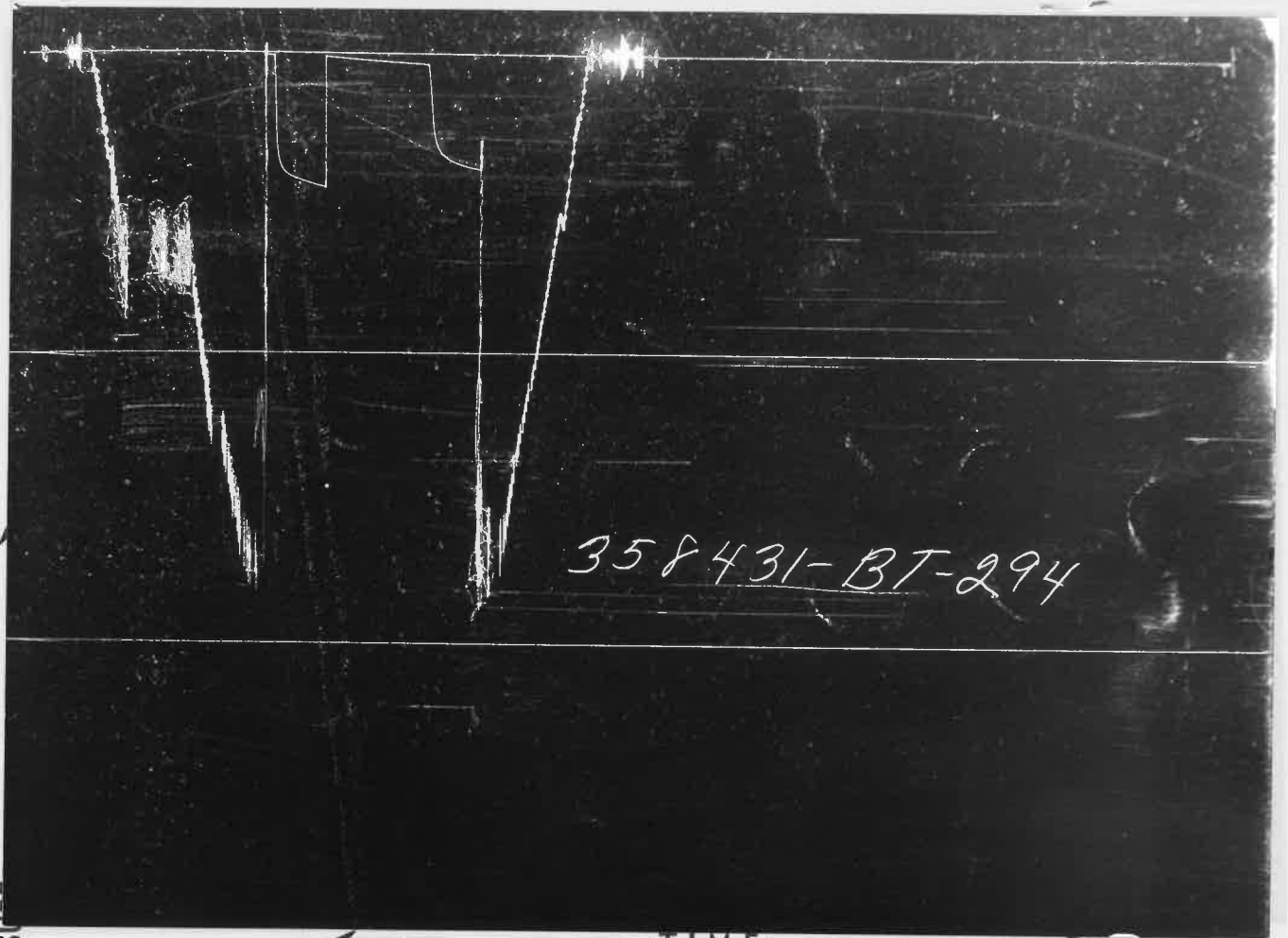
County
ROOKS

State
KANSAS

Gauge No. 294			Depth 3154'			Clock 12 hour			Ticket No. 358431		
First Flow Period			Initial Closed In Pressure			Second Flow Period			Final Closed In Pressure		
	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.	
P ₀	.000	8	.000		10	.000	13	.000		37	
P ₁	.036	10	.021		348	.103	19	.0213		242	
P ₂			.042		392	.206	25	.0426		316	
P ₃			.063		406	.309	31	.0639		339	
P ₄			.084		414	.412	37	.0852		353	
P ₅			.105		421			.1065		361	
P ₆			.126		427			.1278		368	
P ₇			.147		432			.1491		374	
P ₈			.168		438			.1704		378	
P ₉			.189		442			.1917		381	
P ₁₀			.210		446			.2130		385	

Gauge No. 374			Depth 3201'			Clock 12 hour					
P ₀	.000	36	.000		39	.000	45	.000		64	
P ₁	.0064	37	.020		386	.0988	47	.0202		272	
P ₂	.0128	37	.040		423	.1976	53	.0404		344	
P ₃	.0192	37	.060		436	.2964	58	.0606		367	
P ₄	.0256	38	.080		445	.3952	64	.0808		379	
P ₅	.0320	39	.100		451			.1010		388	
P ₆			.120		457			.1212		395	
P ₇			.140		463			.1414		401	
P ₈			.160		468			.1616		405	
P ₉			.180		472			.1818		409	
P ₁₀			.200		475			.2020		412	
Reading Interval		1			3			15			3 Minutes
REMARKS:											

SPECIAL PRESSURE DATA



Each Horizontal Line Equal to 1000 p.s.i.

Flow Time	1st 5	Min.	2nd 60	Min.	Date	11-16-62	Ticket Number	358432	S
Closed In Press. Time	1st 30	Min.	2nd 30	Min.	Kind of Job	OPEN HOLE	Halliburton District	HA YS	
Pressure Readings	Field		Office Corrected		Tester	GROVER	Witness	MR. MOBRY	
Depth Top Gauge	3211	Ft.	Blanked No Off		Drilling Contractor	PEEL BROS. INC.			
BT. P.R.D. No.	294		12 Hour Clock		Elevation	1952'	Top Packer		
Initial Hydro Mud Pressure	1740		1692		Total Depth	3365'	Bottom Packer	3201'	
Initial Closed in Pres.	905		899		Interval Tested	3201-3365'	Formation Tested	Kansas City	
Initial Flow Pres.	10		1 2	21 27	Casing or Hole Size	7 7/8"	Casing Perfs.	Top Bot.	
Final Flow Pres.	40		1 2	21 23	Surface Choke	1/4"	Bottom Choke	1"	
Final Closed in Pres.	420		425		Size & Kind Drill Pipe	4 1/2" ACME	Drill Collars Above Tester	I.D. - LENGTH none	
Final Hydro Mud Pressure	1720		1680		Mud Weight	9.9	Mud Viscosity	48	
Depth Cen. Gauge	3363	Ft.	Blanked Yes Off		Temperature	94	*F Est. *F Actual	Anchor Size & Length	ID 5 OD 3.84 X 164
BT. P.R.D. No.	374		12 Hour Clock		Depths Mea. From	KB	Depth of Tester Valve	3186'	Ft.
Initial Hydro Mud Pres.			1782		Cushion		Depth Back Pres. Valve		Ft.
Initial Closed in Pres.			983		Recovered	31	Feet of Drilling mud		
Initial Flow Pres.			1 2	105 113	Recovered		Feet of		
Final Flow Pres.			1 2	105 111	Recovered		Feet of		
Final Closed in Pres.			504		Recovered		Feet of		
Final Hydro Mud Pres.			1771		Oil A.P.I. Gravity		Water Spec. Gravity		
Depth Bot. Gauge		Ft.	Blanked Off		Gas Gravity		Surface Pressure	psi	
BT. P.R.D. No.			Hour Clock		Tool Opened	6:55 PM	A.M. P.M.	Tool Closed	9:00 PM A.M. P.M.
Initial Hydro Mud Pres.					Remarks	Tool opened for a 5 minute first flow. Ro-			
Initial Closed in Pres.						tated tool for a 30 minute initial closed in press-			
Initial Flow Pres.			1 2			ure. Reopened tool for a 60 minute second flow.			
Final Flow Pres.			1 2			Took a 30 minute final closed in pressure.			
Final Closed in Pres.						Very weak blow for 37 minutes and dead.			
Final Hydro Mud Pres.									

FORMATION TEST DATA

HODSON

Lessee Name

4W

Well No.

2

Test No.

CITIES SERVICE PETROLEUM COMPANY

Lessee Owner/Company Name

RUSSELL

Owner's District

Legal Location
Sec. - Twp. - Rng.

34 8 16

Field Area

County

ROOKS

State

KANSAS

5

Gauge No. 294			Depth 3211'			Clock 12 hour			Ticket No. 358432		
First Flow Period			Initial Closed In Pressure			Second Flow Period			Final Closed In Pressure		
	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\phi}{\phi}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\phi}{\phi}$	PSIG Temp. Corr.	
P ₀	.000	21	.000		21	.000	27	.000		28	
P ₁	.034	21	.0198		239	.403	28	.0197		38	
P ₂			.0396		430			.0394		52	
P ₃			.0594		556			.0591		75	
P ₄			.0792		648			.0788		109	
P ₅			.0990		716			.0985		160	
P ₆			.1188		769			.1182		221	
P ₇			.1386		811			.1379		278	
P ₈			.1584		847			.1576		332	
P ₉			.1782		874			.1773		381	
P ₁₀			.1980		899			.1970		425	

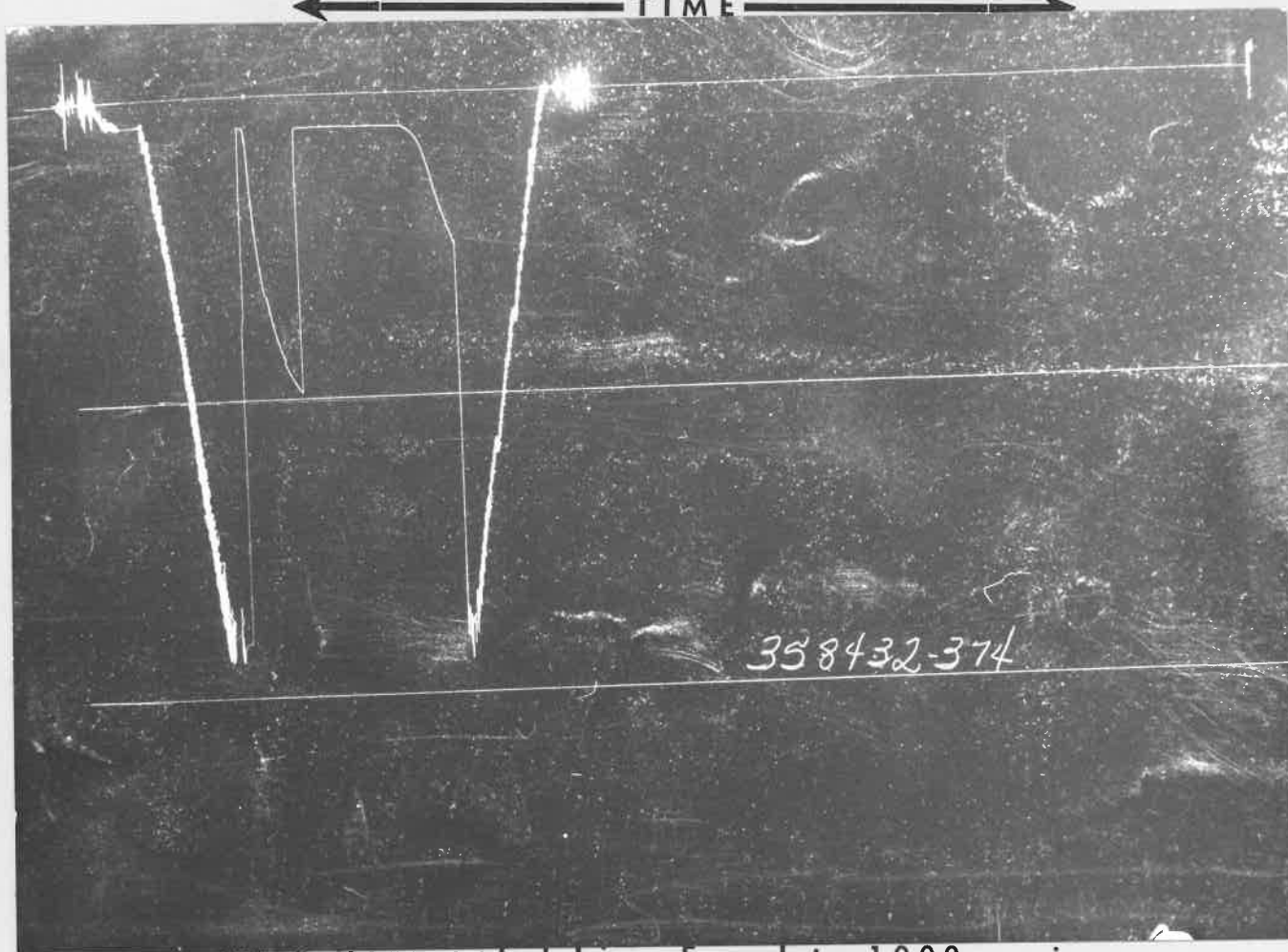
Gauge No. 374			Depth 3363'			Clock 12 hour					
P ₀	.000	105	.000		105	.000	113	.000		111	
P ₁	.022	105	.0202		342	.418	111	.0198		120	
P ₂			.0404		525			.0396		133	
P ₃			.0606		643			.0594		154	
P ₄			.0808		703			.0792		190	
P ₅			.1010		779			.0990		242	
P ₆			.1212		836			.1188		303	
P ₇			.1414		895			.1386		360	
P ₈			.1616		930			.1584		413	
P ₉			.1818		958			.1782		459	
P ₁₀			.2020		983			.1980		504	
Reading Interval			3						3 Minutes		
REMARKS:											

SPECIAL PRESSURE DATA

↑
PRESSURE
↓



← TIME →



Each Horizontal Line Equal to 1000 p.s.i.