	1st Min.	2nd Min.
Flow Time	10	120
Closed In Press. Time	30	30
Pressure Readings	Field	Office Corrected
Depth Top Gauge	4590 Ft.	No Blanked Off
BT. P.R.D. No.	1375	12 Hour Clock
Initial Hydro Mud Pressure	2460	2467
Initial Closed in Pres.	1125	1132
Initial Flow Pres.	25	1 26 / 2 28
Final Flow Pres.	40	1 26 / 2 51
Final Closed in Pres.	960	963
Final Hydro Mud Pressure	2400	2429
Depth Cen. Gauge	Ft.	Blanked Off
BT. P.R.D. No.		Hour Clock
Initial Hydro Mud Pres.		
Initial Closed in Pres.		
Initial Flow Pres.		1 / 2
Final Flow Pres.		1 / 2
Final Closed in Pres.		
Final Hydro Mud Pres.		
Depth Bot. Gauge	4605 Ft.	No Blanked Off
BT. P.R.D. No.	310	12 Hour Clock
Initial Hydro Mud Pres.	2420	2466
Initial Closed in Pres.	1125	1140
Initial Flow Pres.	25	1 39 / 2 35
Final Flow Pres.	40	1 35 / 2 57
Final Closed in Pres.	960	970
Final Hydro Mud Pres.	2420	2449

Date 11-11-61 — Ticket Number 325730

Kind of Job Open Hole Test — Halliburton District Pratt, Kansas

Tester J. E. Parks — Witness

Drilling Contractor PATTON DRILLING COMPANY

Elevation 1846 KB — Top Packer 4599

Total Depth 4609 — Bottom Packer 4603

Interval Tested 4603-4609 — Formation Tested Viola

Casing or Hole Size 7 7/8 — Casing Perfs. Top / Bot.

Surface Choke 1" — Bottom Choke 5/8"

Size & Kind Drill Pipe 4 1/2 FH — Drill Collars Above Tester I.D. - LENGTH 2¼ - 142'

Mud Weight 10 — Mud Viscosity 45

Temperature 115 °F Est. / °F Actual — Anchor Size & Length ID 2.37 OD 5" X 6'

Depths Mea. From Kelly Bushing — Depth of Tester Valve 4587 Ft.

Cushion TYPE None AMOUNT Ft. — Depth Back Pres. Valve Ft.

Mea. From Tester Valve

Recovered 80 Feet of Oil cut mud

Recovered 90 Feet of Froggy oil

Recovered Feet of

Recovered Feet of

Oil A.P.I. Gravity Unknown — Water Spec. Gravity Unknown

Gas Gravity Unknown — Surface Pressure 0 psi

Tool Opened 1:57 AM A.M. P.M. — Tool Closed 4:37 AM A.M. P.M.

Remarks Tool open with good blow. Gas to surface@ 3:00 AM.

Legal Location Sec. - Twp. - Rng. NE19-NW31-14SW

Lease Name "C" — Well No. 1

Test No. 3

Lease Owner/Company Name LARIO OIL AND GAS COMPANY

Field Area

County BARBER

State KANSAS

Owner's District KANSAS

19-3

FORMATION TEST DATA

Gauge No. 1375	Depth 4590'	Clock 12 hour	Ticket No. 325730

	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	26*	.000	---	29	.000	28	.000	---	51
P_1	.078	29*	.021	.674	623	.1088	43*	.0217	1.65	448
P_2			.042	.456	888	.2176	35	.0434	1.36	650
P_3			.063	.350	1007	.3264	38	.0651	1.19	767
P_4			.084	.285	1064	.4352	42	.0868	1.08	832
P_5			.105	.241	1091	.5440	44	.1085	.988	874
P_6			.126	.209	1105	.6528	47	.1302	.918	901
P_7			.147	.185	1115	.7616	51	.1519	.960	922
P_8			.168	.066	1122	.8700	51	.1736	.810	937
P_9			.189	.150	1127			.1953	.767	951
P_{10}			.210	.137	1132			.2170	.730	963

Gauge No. 310	Depth 4590'	Clock 12 hour	

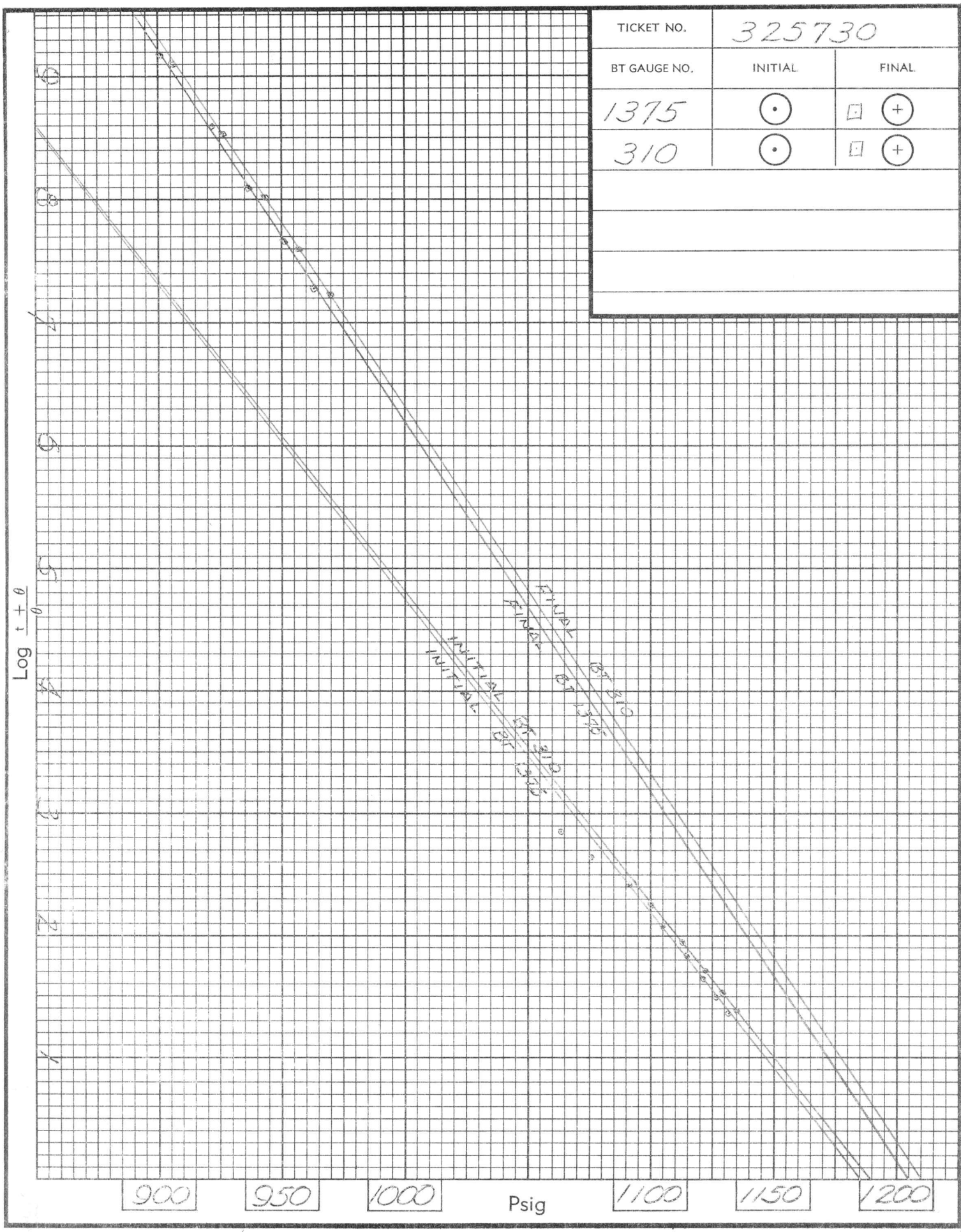
P_0	.000	39	.000	---	35	.000	35	.000	---	57
P_1	.067	35	.0197	.643	632	.1003	49	.0203	1.64	423
P_2			.0394	.431	901	.2006	40	.0406	1.35	645
P_3			.0591	.329	1023	.3009	44	.0609	1.18	770
P_4			.0788	.267	1076	.4012	48	.0812	1.07	838
P_5			.0985	.225	1100	.5015	50	.1015	.981	878
P_6			.1182	.195	1113	.6018	52	.1218	.910	906
P_7			.1379	.172	1123	.7021	55	.1421	.852	927
P_8			.1576	.154	1129	.8020	57	.1624	.803	944
P_9			.1773	.139	1135			.1827	.760	957
P_{10}			.1970	.127	1140			.2030	.723	970
Reading Interval			3			15		3		Minutes

REMARKS:

* Questionable due to plugging.

SPECIAL PRESSURE DATA

TICKET NO.	325730	
BT GAUGE NO.	INITIAL	FINAL
1375	⊙	□ +
310	⊙	□ +



EXTRAPOLATED PRESSURE GRAPH

Liquid Production

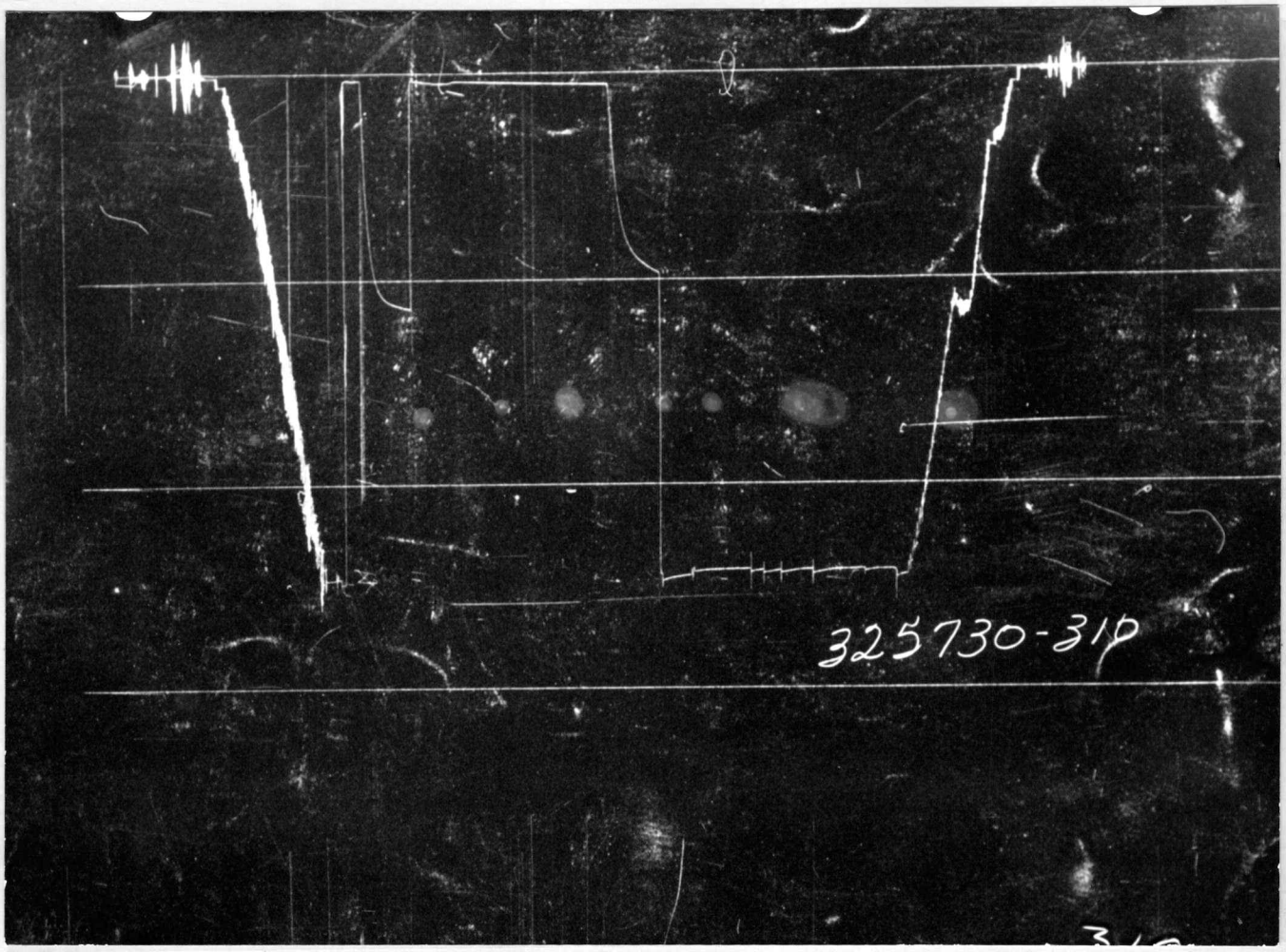
B.T. Gauge Numbers		1375	310	**Ticket Number** 11/11/61	325730
Initial Hydrostatic		PRESSURE	PRESSURE	Elevation	1846 ft.
Final Hydrostatic				Indicated Production 1st Flow	bbls. day
	Time			Total Flow	7.95 bbls. day
1st Flow Initial	— — — —				
1st Flow Final	10			Drill Collar Length	142 ft.
Initial Closed In Pressure	30			Drill Collar I.D.	2.25 in.
2nd Flow Initial	— — — —			Drill Pipe Factor	.0066 bbls. ft.
2nd Flow Final	120			Hole Size	7 7/8 in.
Final Closed In Pressure	30			Footage Tested	6 ft.
Extrapolated Static Pressure Initial		1185	1190	Mud Weight	10 lbs. gal.
Extrapolated Static Pressure Final		1205	1210	Viscosity, Oil or Water	4.0 cp
Slope ~~psi/cycle~~ P10 Initial		787	793	Oil API Gravity	35? —
Slope ~~psi/cycle~~ P10 Final		863	867	Water Specific Gravity	- —

Remarks:

SUMMARY

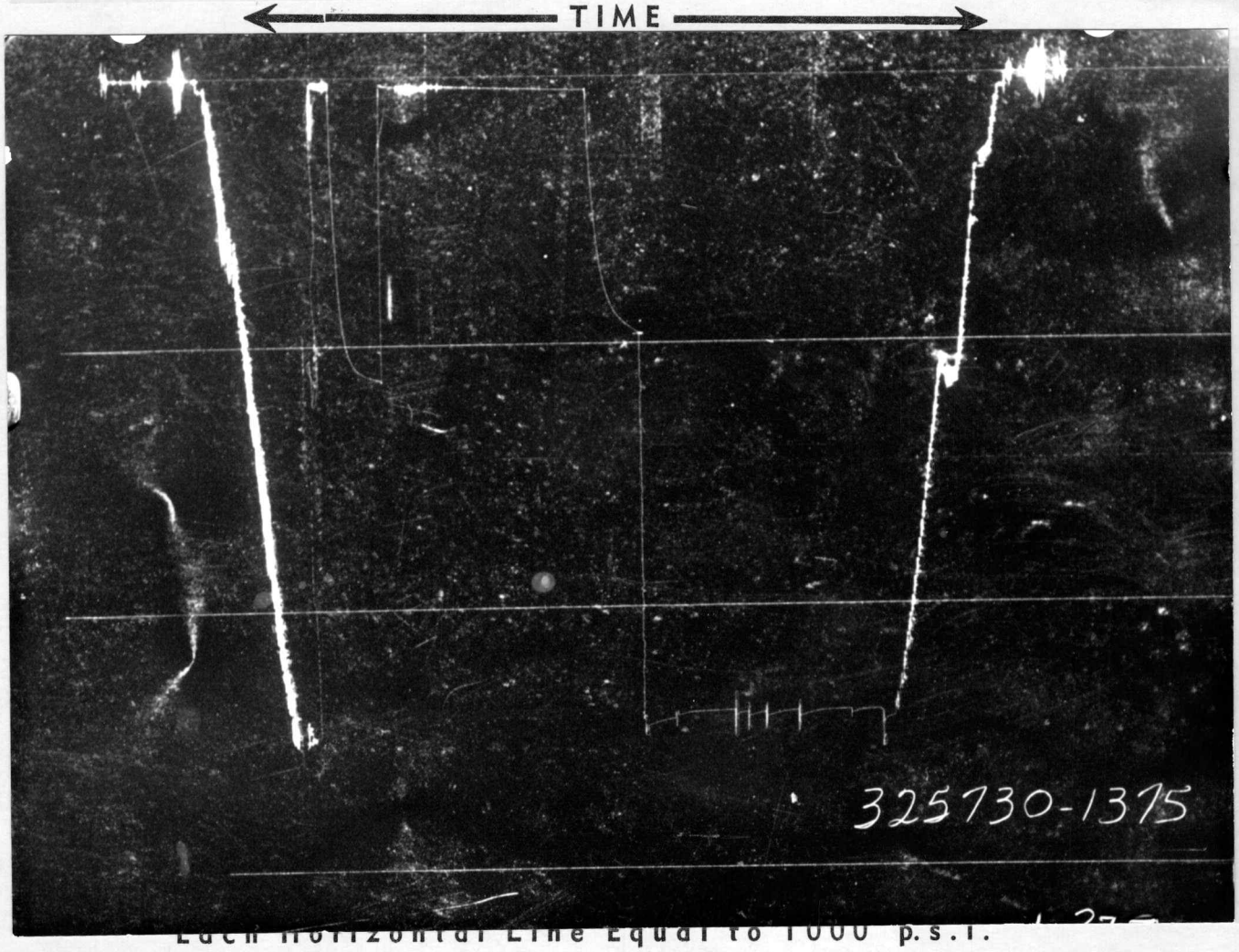
Product	Equation	Gauge No. 1375/ Depth 4590' Initial	Gauge No. 1375/ Depth 4590' Final	Gauge No. 310/ Depth 4605 Initial	Gauge No. 310/ Depth 4605 Final	Units
Production	$Q = \frac{1440\ R}{t}$		7.95		7.95	bbls. day
Transmissability	$\frac{Kh}{\mu} = \frac{162.6\ Q}{m}$		3.78		3.77	$\frac{\text{md. ft.}}{\text{cp}}$
Indicated Flow Capacity	$Kh = \frac{Kh}{\mu}\ \mu$		15.13		15.08	md. ft.
Average Effective	$K = \frac{Kh}{h}$		2.52		2.51	md.
Permeability	$K_I = \frac{Kh}{h_I}$	-	-	-	-	md.
Damage Ratio	$DR = .183\ \frac{Ps - Pf}{m}$		.617		.615	—
Theoretical Potential w/Damage Removed	$Q_1 = Q\ DR$		7.95		7.95	bbls. day
Approx. Radius of Investigation	$b \leq \sqrt{Kt}$ or $\sqrt{Kt_0}$		18.1		18.07	ft.
	$b_1 \leq \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$					ft.
Potentiometric Surface *	$Pot. = El - GD + 2.319\ Ps$		50.39		46.99	ft.

INTERPRETATIONS AND CALCULATIONS



PRESSURE

TIME



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

Initial Closed In Time	30		Minutes
Tool Open Flow Period 1st	10	2nd 120	Minutes
Final Closed In Time	30		Minutes

Depth Top Gauge	4595 Ft.	Blanked Off	No
BT. P.R.D. No	1375		12 Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure	2465	2471	
Initial Closed in Pres.	845	842	
Initial Flow Pres.	25	24-27	
Final Flow Pres.	30	27-44	
Final Closed in Pres.	900	907	
Final Hydro Mud Pressure	2435	2447	

Depth Center Gauge	Ft.	Blanked Off	
BT. P.R.D. No			Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure			
Initial Closed in Pres.			
Initial Flow Pres.			
Final Flow Pres.			
Final Closed in Pres.			
Final Hydro Mud Pressure			

Depth Bottom Gauge	4615 Ft.	Blanked Off	No
BT. P.R.D. No	310		12 Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure	2470	2475	
Initial Closed in Pres.	860	855	
Initial Flow Pres.	20	34-35	
Final Flow Pres.	30	32-46	
Final Closed in Pres.	900	917	
Final Hydro Mud Pressure	2470	2462	

Amount-Type of Cushion	None

Form No. 1295 R2

Date 11-11-61

Ticket No. 325731

Halliburton District PRATT

Kind of Job OPEN HOLE

CONTRACTOR PATTON DRILLING COMPANY, INC.

HOLE & TOOL DATA

Elevation	1846' KB	Top Packer Depth	4605'
Total Depth	4619'	Bottom Packer Depth	4609'
Casing or Hole Size	7 7/8"	Size & Type Wall Packer	6 3/4" ESWP
Liner or Rathole Size	7 7/8"	Size Bottom Choke	5/8"
Casing Perforations	Top / Bottom	Size Surface Choke	"
Interval Tested	4609-4619'	ID & Length Air Chamber	
Formation Tested	Viola	ID & Length Drill Collars	2¼" X 142'
Est. Gauge Depth Temp.	C-120 F°	Size Drill Pipe	4½" FH
MUD DATA Weight	10	Viscosity	51
All depths measured from	KB	No...Folders Reproduced	

REMARKS: Tool on bottom at 6:30. Opened tool at 6:33 with a good blow, for 30 min. 1st flow. Closed tool at 6:43 for 30 min. ICIP. Reopened tool at 7:13 for 120 min. 2nd flow. Closed tool at 9:13 for 30 min. FCIP. Started out of hole at 9:43. Anchor: 3½" ID- 5" OD x 10'. Tester valve: 4590'.

Recovered	20	Feet of	Slightly oil specked mud
Recovered		Feet of	
Recovered		Feet of	
Recovered		Feet of	

Witnessed By

Tester J.E. Parks

LOCATION NE NW SW 19 31 14

FIELD

COUNTY BARBER

STATE KANSAS

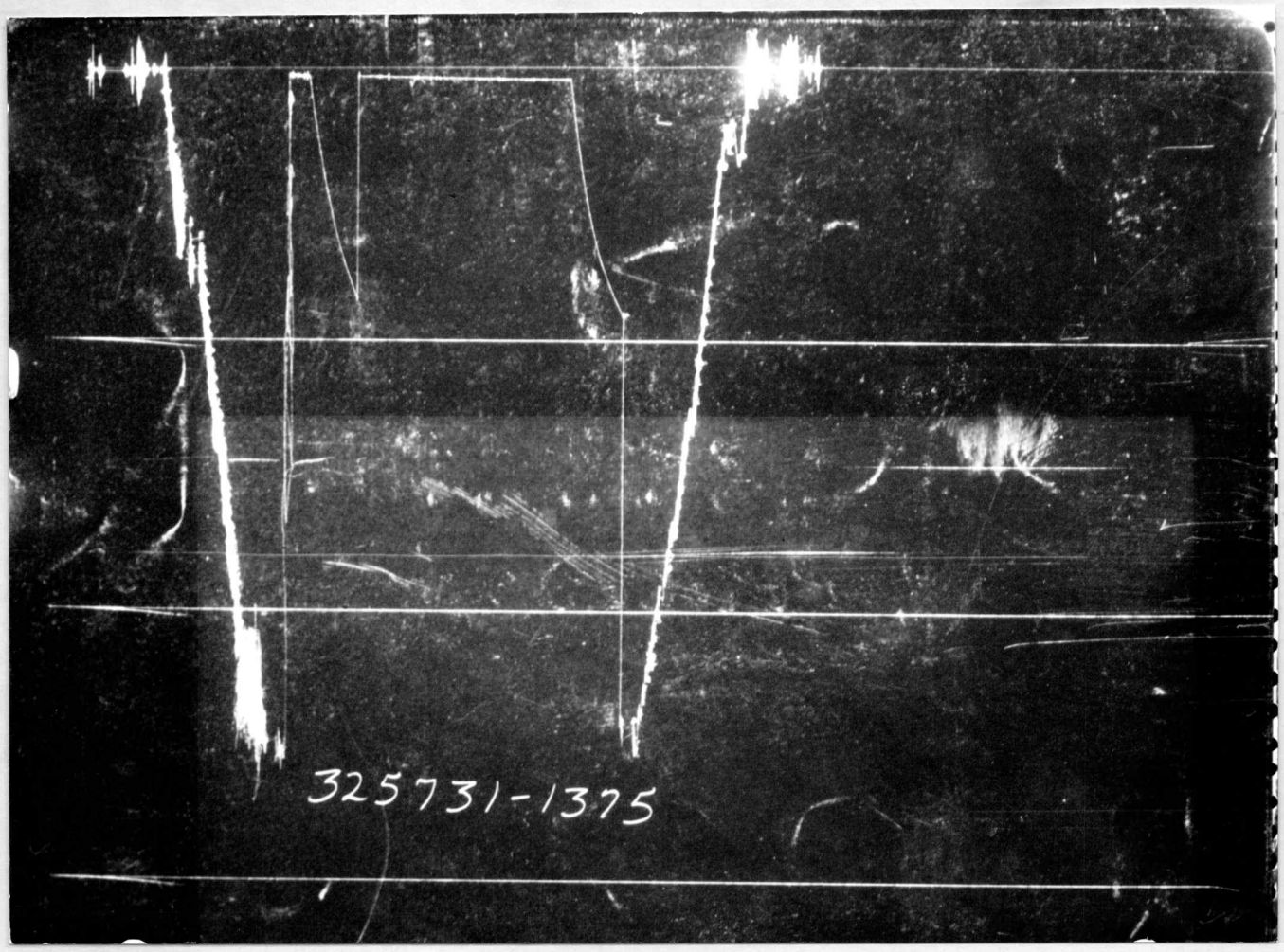
LEASE NAME SHAFT

WELL NO. C-1

TEST NO. 4

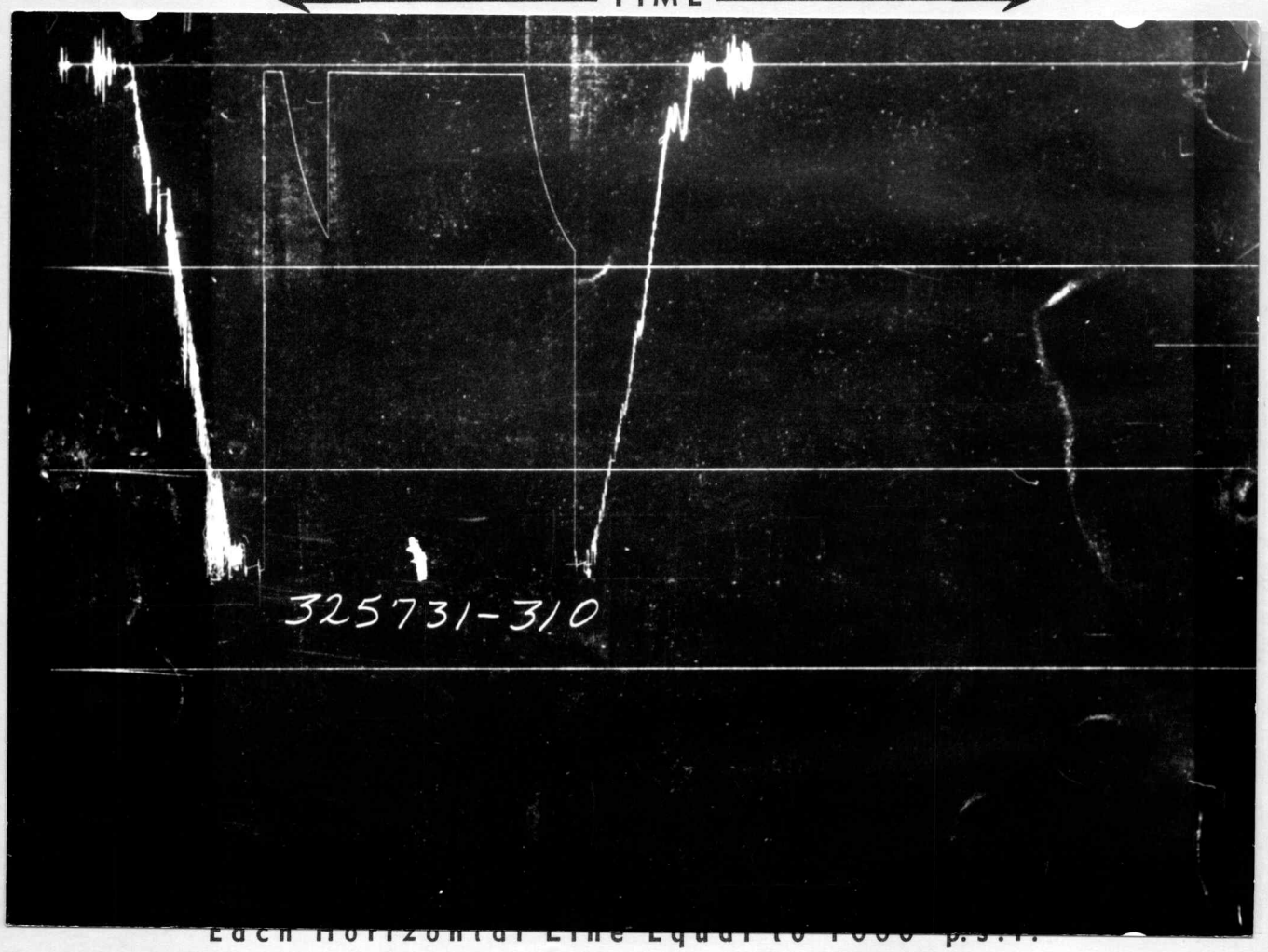
LEASE OWNER LARIO OIL & GAS COMPANY

OWNERS DISTRICT KANSAS



PRESSURE

TIME



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

Initial Closed In Time	30		Minutes
Tool Open Flow Period 1st / 2nd	10	60	Minutes
Final Closed In Time	30		Minutes

Depth Top Gauge	4636 Ft.	Blanked Off	No
BT, P.R.D. No	1375	12	Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure	2460	2470	
Initial Closed in Pres.	185	151	
Initial Flow Pres.	15	19-19	
Final Flow Pres.	15	19-25	
Final Closed in Pres.	435	441	
Final Hydro Mud Pressure	2460	2470	

Depth Center Gauge	Ft.	Blanked Off	
BT, P.R.D. No			Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure			
Initial Closed in Pres.			
Initial Flow Pres.			
Final Flow Pres.			
Final Closed in Pres.			
Final Hydro Mud Pressure			

Depth Bottom Gauge	4667 Ft.	Blanked Off	No
BT, P.R.D. No	310	12	Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure	2470	2490	
Initial Closed in Pres.	150	167	
Initial Flow Pres.	15	37-39	
Final Flow Pres.	15	37-43	
Final Closed in Pres.	455	460	
Final Hydro Mud Pressure	2470	2490	

Amount-Type of Cushion

Date 11-12-61

Ticket No. 325732

Halliburton District Pratt

Kind of Job Open Hole

CONTRACTOR Patton Drlg Co. Inc.

HOLE & TOOL DATA

Elevation	1846' KB	Top Packer Depth	4646'
Total Depth	4670'	Bottom Packer Depth	4650'
Casing or Hole Size	7 7/8"	Size & Type Wall Packer	6 3/4" ESWP
Liner or Rathole Size	7 7/8"	Size Bottom Choke	5/8"
Casing Perforations Top / Bottom		Size Surface Choke	1"
Interval Tested	4650-4670'	ID & Length Air Chamber	-
Formation Tested	Viola	ID & Length Drill Collars	24" x 142'
Est. Gauge Depth Temp.	c-120 F°	Size Drill Pipe	4½" FH
MUD DATA Weight	10	Viscosity	51
All depths measured from	Kelly Bushing	No...Folders Reproduced	5

REMARKS: On bottom 4:40. Open 4:43 with a weak blow. Closed 4:53 for initial closed in pressure. Reopen at 5:23 for flow. Closed 6:23 for final closed in pressure. Start out at 6:53

No special reading adaptable.

I.D. 3½" O.D. 5" length 20'.

Tester depth 4631'.

Recovered 10 Feet of gassy mud

Recovered Feet of

Recovered Feet of

Recovered Feet of

Witnessed By Dennis Furst

Tester J. E. Parks

LOCATION NE NW SW 19-31-4

FIELD -

COUNTY BARBER

STATE KANSAS

SHAFT LEASE NAME

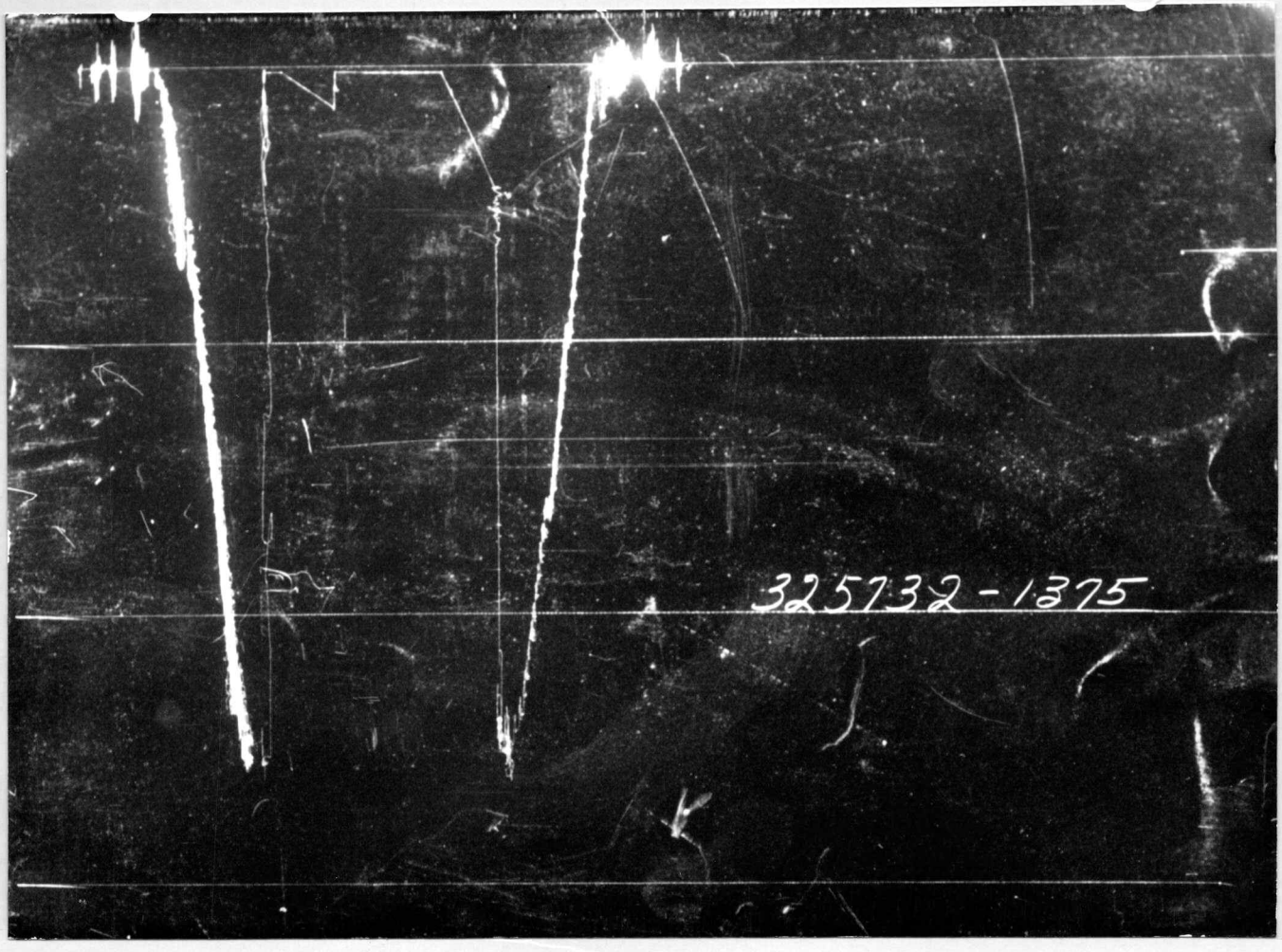
C-1 WELL NO.

5 TEST NO.

LARIO OIL & GAS COMPANY LEASE OWNER

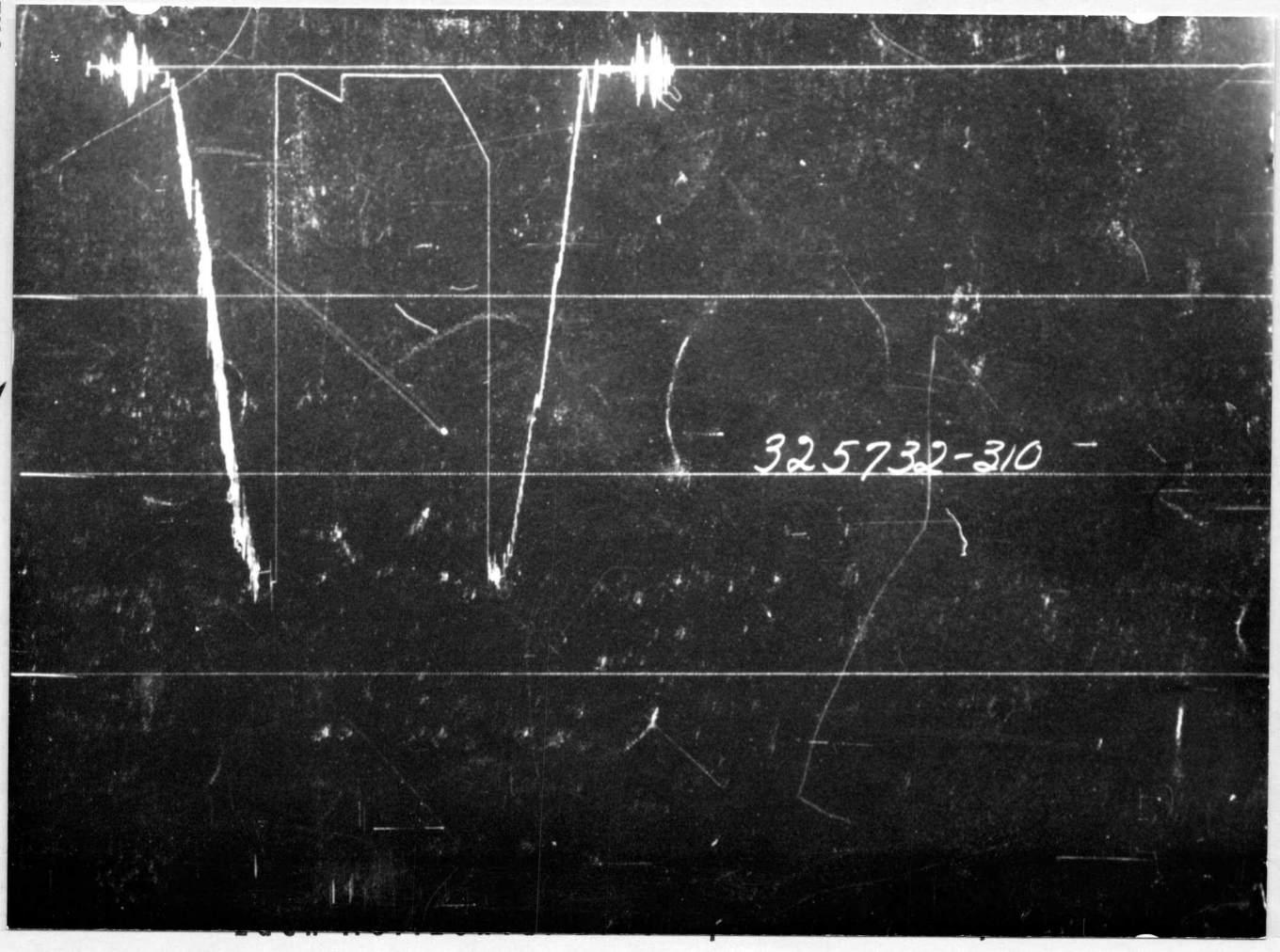
KANSAS OWNERS DISTRICT

Form No. 1295 R2



PRESSURE

TIME



Flow Time	1st Min. 10	2nd Min. 120	Date 11-12-61		Ticket Number 325733		
Closed In Press. Time	1st Min. 30	2nd Min. 30	Kind of Job Open Hole Test		Halliburton District Pratt, Kansas		
Pressure Readings	Field	Office Corrected	Tester J. E. Parks		Witness Denny Furst		
Depth Top Gauge	4698 Ft.	No Blanked Off	Drilling Contractor PATTON DRILLING COMPANY, INCORPORATED				
BT. P.R.D. No.	1375	12 Hour Clock	Elevation 1846 K.B.		Top Packer 4710'		
Initial Hydro Mud Pressure	2480	2488	Total Depth 4727'		Bottom Packer 4714'		
Initial Closed in Pres.	1530	1518	Interval Tested 4714-4727		Formation Tested Simpson		
Initial Flow Pres.	35	1 13 2 44	Casing or Hole Size 7 7/8		Casing Perfs. Top / Bot.		
Final Flow Pres.	100	1 27 2 99	Surface Choke 1"		Bottom Choke 5/8"		
Final Closed in Pres.	1530	1527	Size & Kind Drill Pipe 4½ Flux weight		Drill Collars Above Tester I.D. 2¼ LENGTH 142		
Final Hydro Mud Pressure	2480	2492	Mud Weight 9.9		Mud Viscosity 46		
Depth Cen. Gauge	Ft.	Blanked Off	Temperature 116 °F Est. / °F Actual		Anchor Size & Length ID 2.37 OD 5 X 13'		
BT. P.R.D. No.		Hour Clock	Depths Mea. From Kelly Bushing		Depth of Tester Valve 4700' Ft.		
Initial Hydro Mud Pres.			Cushion TYPE None AMOUNT Ft.		Depth Back Pres. Valve Ft.		
Initial Closed in Pres.			Recovered 180 Feet of Frothy gas & oil				
Initial Flow Pres.		1 2	Recovered Feet of				
Final Flow Pres.		1 2	Recovered Feet of				
Final Closed in Pres.			Recovered Feet of				
Final Hydro Mud Pres.			Oil A.P.I. Gravity Unknown		Water Spec. Gravity None		
Depth Bot. Gauge	4723 Ft.	no Blanked Off	Gas Gravity Unknown		Surface Pressure psi		
BT. P.R.D. No.	310	12 Hour Clock	Tool Opened 4:47 PM A.M. P.M.		Tool Closed 7:27 PM A.M. P.M.		
Initial Hydro Mud Pres.	2495	2504	Remarks Tool open with fair blow.				
Initial Closed in Pres.	1540	1539					
Initial Flow Pres.	45	1 39 2 70					
Final Flow Pres.	130	1 46 2 113					
Final Closed in Pres.	1540	1546					
Final Hydro Mud Pres.	2520	2521					

Legal Location Sec. - Twp. - Rng. NE19-NW31-SW14

Lease Name

Well No. 1

Test No. 6

Field Area

Lease Owner/Company Name LARIO OIL AND GAS COMPANY

County BARBER

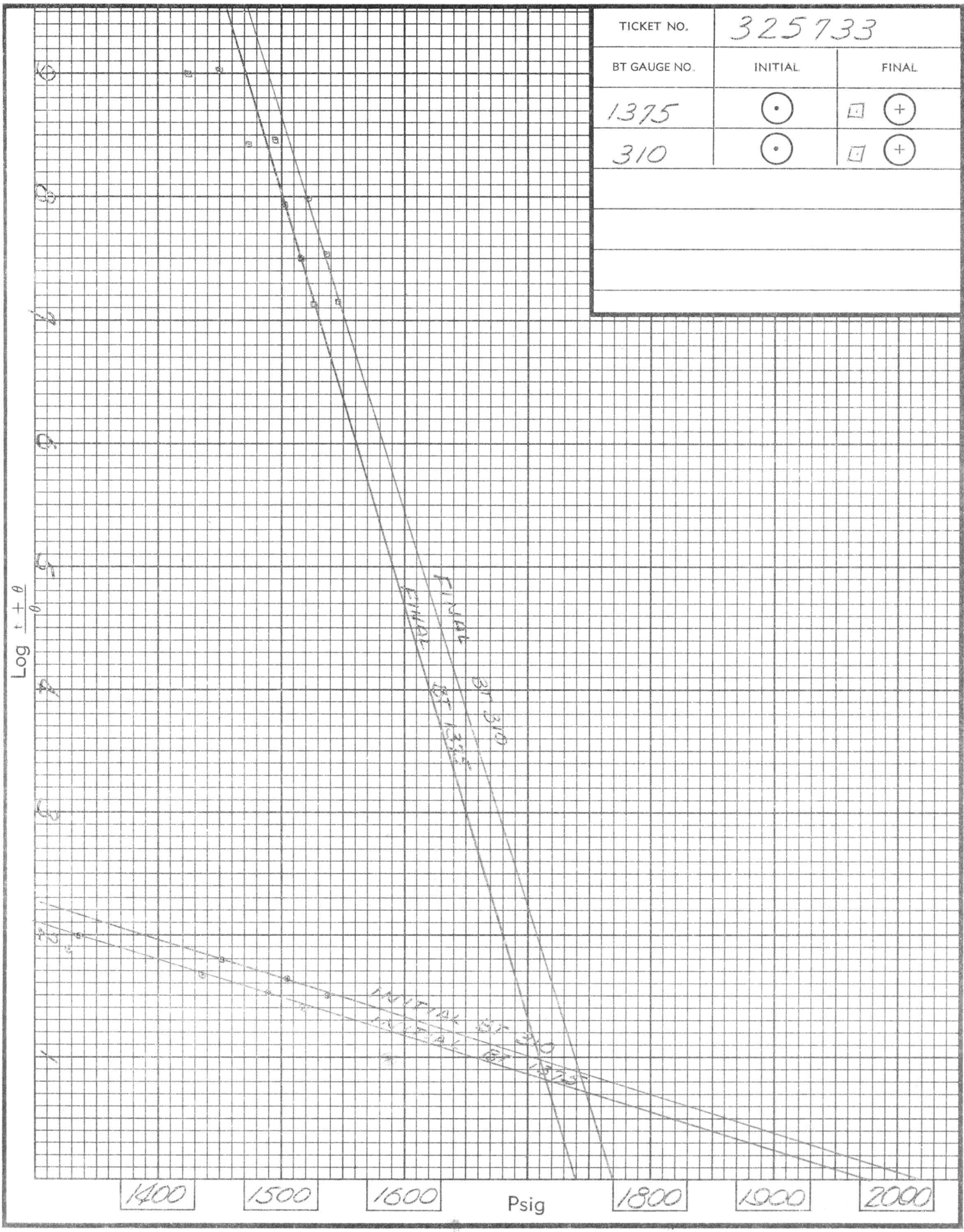
State KANSAS

Owner's District

Mea. From Tester Valve

FORMATION TEST DATA

TICKET NO.	325733	
BT GAUGE NO.	INITIAL	FINAL
1375	⊙	□ +
310	⊙	□ +



EXTRAPOLATED PRESSURE GRAPH

Liquid Production

B.T. Gauge Numbers		1375	310	**Ticket Number** 11/12/61	325733	
Initial Hydrostatic		PRESSURE	PRESSURE	Elevation	1846	ft.
Final Hydrostatic				Indicated Production 1st Flow	-	bbls. day
1st Flow Initial	Time — — — —			Total Flow	8.84	bbls. day
1st Flow Final	10			Drill Collar Length	2.25	ft.
Initial Closed In Pressure	30			Drill Collar I.D.	142	in.
2nd Flow Initial	— — — —			Drill Pipe Factor	.0066	bbls. ft.
2nd Flow Final	120			Hole Size	7 7/8	in.
Final Closed In Pressure	30			Footage Tested	13	ft.
Extrapolated Static Pressure Initial		-	-	Mud Weight	9.9	lbs. gal.
Extrapolated Static Pressure Final		1740	1769	Viscosity, Oil or Water	4.0	cp
Slope ~~psi/cycle~~ P10 Initial		-	-	Oil API Gravity	35?	—
Slope P10 Final		1439	1458	Water Specific Gravity	-	—

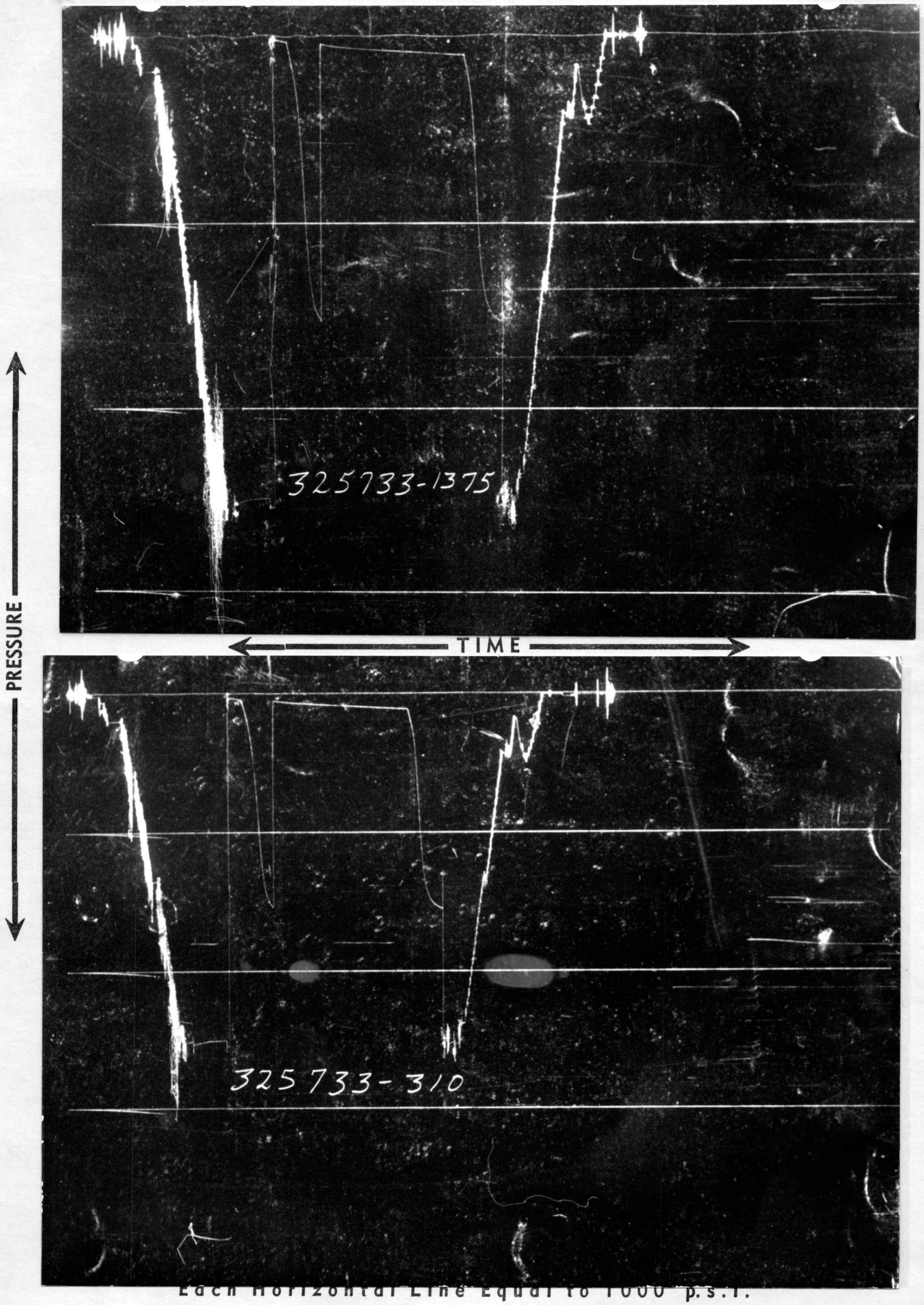
Remarks:

SUMMARY

		Gauge No. / Depth	1375 / 4698'		Gauge No. / Depth	310 / 4723'	
Product	**Equation**	**Initial**	**Final**	**Initial**	**Final**	**Units**
Production	$Q = \frac{1440\ R}{t}$		8.84		8.84	bbls. day
Transmissability	$\frac{Kh}{\mu} = \frac{162.6\ Q}{m}$		4.77		3.50	$\frac{\text{md. ft.}}{\text{cp}}$
Indicated Flow Capacity	$Kh = \frac{Kh}{\mu}\ \mu$		19.11		14.0	md. ft.
Average Effective	$K = \frac{Kh}{h}$		1.47		1.07	md.
Permeability	$K_I = \frac{Kh}{h_I}$		-		-	md.
Damage Ratio	$DR = .183\ \frac{Ps - Pf}{m}$		.99		.97	—
Theoretical Potential w/Damage Removed	$Q_1 = Q\ DR$		8.84		8.84	bbls. day
Approx. Radius of Investigation	$b \leq \sqrt{Kt}$ or $\sqrt{Kt_0}$		13.8		11.8	ft.
	$b_1 \leq \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$					ft.
Potentiometric Surface *	$Pot. = El - GD + 2.319\ Ps$		1183.0		1225.3	ft.

NOTICE: These calculations are based upon information furnished by you and taken from Drill Stem Test pressure charts, and are furnished you for your information. In furnishing such calculations and evaluations based thereon, Halliburton is merely expressing its opinion. You agree that Halliburton makes no warranty express or implied as to the accuracy of such calculations or opinions, and that Halliburton shall not be liable for any loss or damage, whether due to negligence or otherwise, in connection with such calculations and opinions.

INTERPRETATIONS AND CALCULATIONS



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

	1st Min.	2nd Min.
Flow Time	10	120
Closed In Press. Time	30	30
Pressure Readings	Field	Office Corrected
Depth Top Gauge	4711 Ft.	No Blanked Off
BT. P.R.D. No.	1375	12 Hour Clock
Initial Hydro Mud Pressure	2510	2510
Initial Closed in Pres.	1560	1565
Initial Flow Pres.	20	1 19 / 2 26
Final Flow Pres.	65	1 22 / 2 62
Final Closed in Pres.	1450	1448
Final Hydro Mud Pressure	2480	2481
Depth Cen. Gauge	Ft.	Blanked Off
BT. P.R.D. No.		Hour Clock
Initial Hydro Mud Pres.		
Initial Closed in Pres.		
Initial Flow Pres.		1 / 2
Final Flow Pres.		1 / 2
Final Closed in Pres.		
Final Hydro Mud Pres.		
Depth Bot. Gauge	4734 Ft.	No Blanked Off
BT. P.R.D. No.	310	12 Hour Clock
Initial Hydro Mud Pres.	2525	2509
Initial Closed in Pres.	1595	1573
Initial Flow Pres.	20	1 39 / 2 45
Final Flow Pres.	75	1 34 / 2 70
Final Closed in Pres.	1470	1459
Final Hydro Mud Pres.	2495	2486

Date 11-14-61 — Ticket Number 325734

Kind of Job Open Hole Test — Halliburton District Pratt, Kansas

Tester J. E. Parks — Witness Denny Furst

Drilling Contractor PATTON DRILLING COMPANY INCORPORATED

Elevation 1846 KB — Top Packer 4722'

Total Depth 4737' — Bottom Packer 4726'

Interval Tested 4726-4737 — Formation Tested Simpson

Casing or Hole Size 7 7/8 — Casing Perfs. Top / Bot.

Surface Choke 1" — Bottom Choke 5/8"

Size & Kind Drill Pipe 4½ Flux Weight — Drill Collars Above Tester I.D. - LENGTH 2¼ - 142

Mud Weight 9.9 — Mud Viscosity 48

Temperature 116 °F Est. / °F Actual — Anchor Size & Length ID 2.37 / OD 5 X 11'

Depths Mea. From Kelly Bushing — Depth of Tester Valve 4710 Ft.

Cushion TYPE None AMOUNT Ft. — Depth Back Pres. Valve Ft.

Recovered 120 Feet of Heavy Oil & Gas Cut Mud

Recovered Feet of

Recovered Feet of

Recovered Feet of

Mea. From Tester Valve

Oil A.P.I. Gravity Unknown — Water Spec. Gravity Unknown

Gas Gravity Unknown — Surface Pressure 0 psi

Tool Opened 6:39 AM A.M. P.M. — Tool Closed 9:19 AM A.M. P.M.

Remarks Tool open with weak blow.

Legal Location Sec. - Twp. - Rng. NE19-NW31-SW14

Lease Name SHAFT

Well No. "C" 1

Test No. 7

Lease Owner/Company Name LARIO OIL AND GAS COMPANY

Field Area

County BARBER

State KANSAS

Owner's District

FORMATION TEST DATA

Gauge No. 1375	Depth 4711'	Clock 12 hour	Ticket No. 325734

	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	19	.000	---	22	.000	26	.000	---	62
P_1	.088	22	.0209	.717	78	.1088	31	.021	1.67	145
P_2			.0418	.492	177	.2175	35	.042	1.38	239
P_3			.0627	.381	402	.3263	39	.063	1.21	367
P_4			.0836	.312	878	.4350	44	.084	1.09	533
P_5			.1045	.265	1257	.5438	48	.105	1.00	750
P_6			.1254	.231	1423	.6525	53	.126	.935	984
P_7			.1463	.204	1497	.7613	57	.147	.876	1186
P_8			.1672	.184	1531	.870	62	.168	.826	1318
P_9			.1881	.167	1551			.189	.783	1400
P_{10}			.209	.153	1565			.210	.745	1448

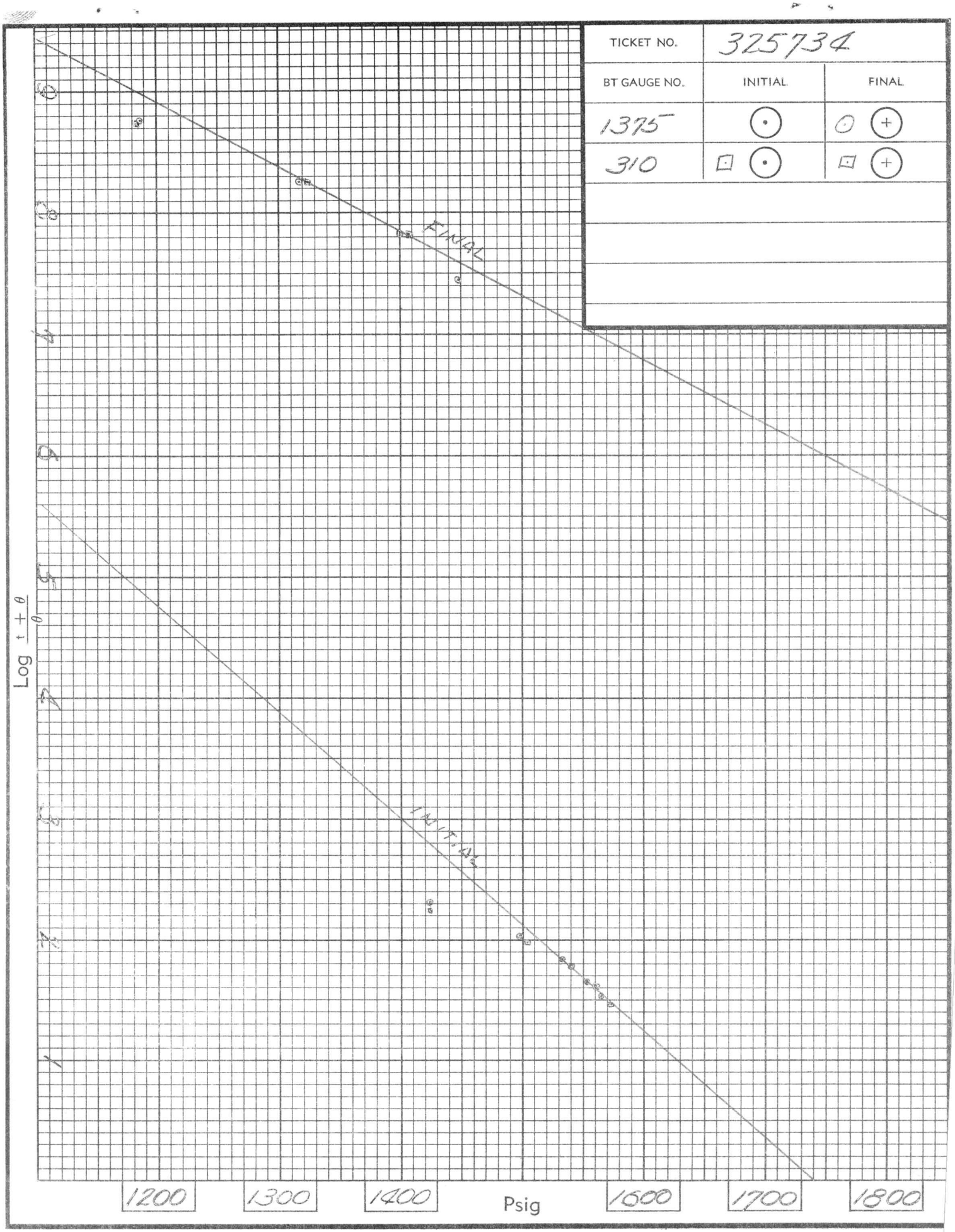
Gauge No. 310	Depth 3734'	Clock 12 hour

P_0	.000	39	.000	---	34	.000	45	.000	---	70
P_1	.078	34	.0193	.702	82	.1015	43	.0195	1.67	137
P_2			.0386	.480	163	.2030	45	.0390	1.38	226
P_3			.0579	.370	351	.3045	50	.0585	1.21	349
P_4			.0772	.303	832	.4060	54	.0780	1.09	523
P_5			.0965	.257	1250	.5075	57	.0975	1.00	738
P_6			.1158	.224	1426	.6090	61	.1170	.935	973
P_7			.1351	.198	1504	.7105	66	.1365	.876	1185
P_8			.1544	.178	1540	.8120	70	.1560	.826	1324
P_9			.1737	.161	1560			.1755	.783	1409
P_{10}			.1930	.147	1573			.1950		1459
Reading Interval			3			15		3		Minutes

REMARKS:

SPECIAL PRESSURE DATA

TICKET NO.	325734	
BT GAUGE NO.	INITIAL	FINAL
1375	⊙	⊕
310	⊡ ⊙	⊡ ⊕



EXTRAPOLATED PRESSURE GRAPH

Liquid Production

B.T. Gauge Numbers			1375	310	**Ticket Number** 7/14/61	325734
Initial Hydrostatic			PRESSURE	PRESSURE	Elevation	1846 ft.
Final Hydrostatic					Indicated Production — 1st Flow	bbls. day
1st Flow	Initial	Time — — — —			Indicated Production — Total Flow	653 bbls. day
	Final	10			Drill Collar Length	142 ft.
Initial Closed In Pressure		30			Drill Collar I.D.	2.25 in.
2nd Flow	Initial	— — — —			Drill Pipe Factor	.0066 bbls. ft.
	Final	120			Hole Size	7 7/8 in.
Final Closed In Pressure		30			Footage Tested	11 ft.
Extrapolated Static Pressure	Initial		1740	1740	Mud Weight	10 lbs. gal.
	Final		-	-	Viscosity, Oil or Water	4.0 cp
Slope psi/cycle	Initial		590	590	Oil API Gravity	—
	Final		-	-	Water Specific Gravity	—

Remarks:

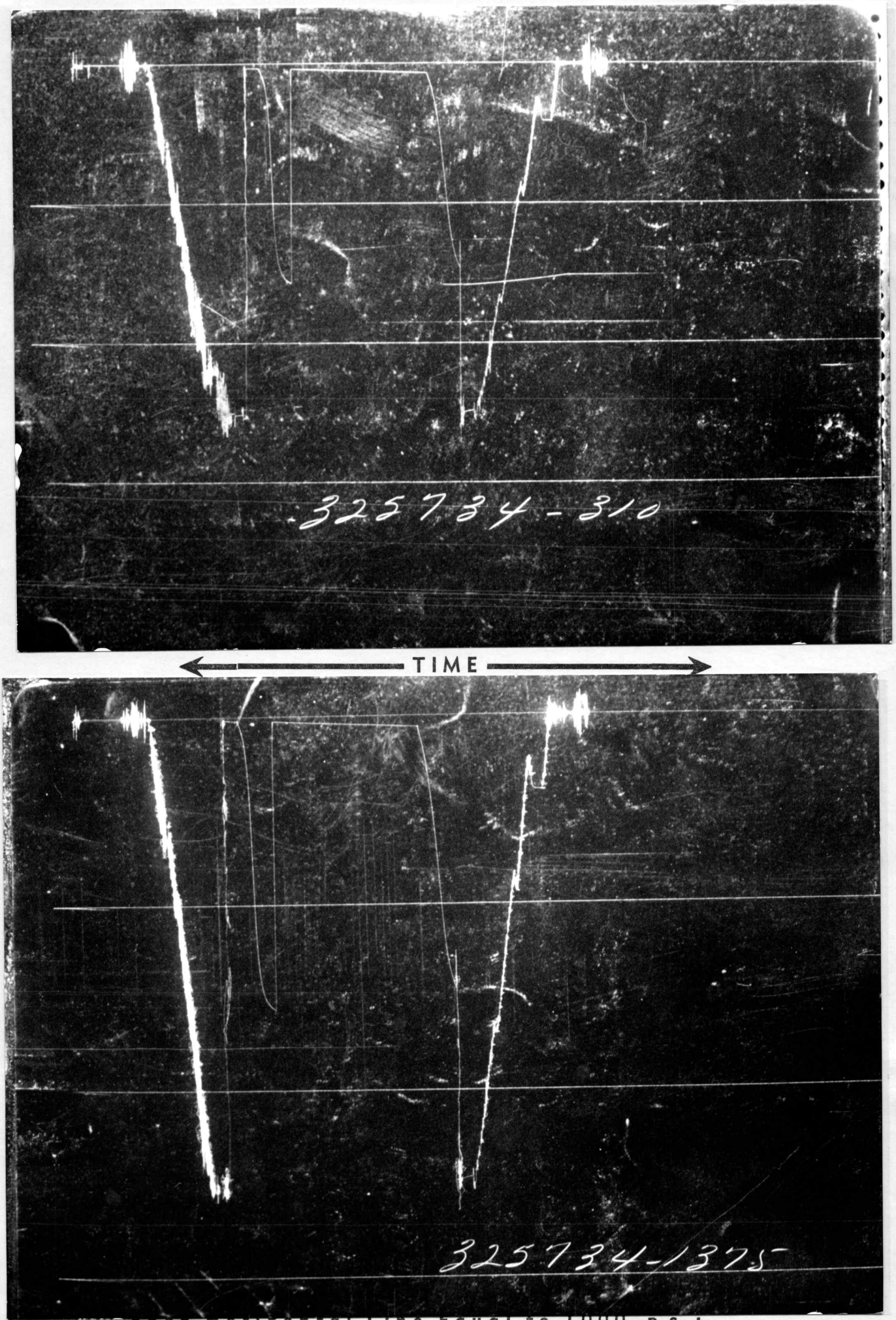
SUMMARY

Gauge No. / Depth: 1375 / 4711'

Gauge No. / Depth: 310 / 4734

Product	Equation	Initial	Final	Initial	Final	Units
Production	$Q = \frac{1440\ R}{t}$	4.25		2.95		bbls. day
Transmissability	$\frac{Kh}{\mu} = \frac{162.6\ Q}{m}$	.600		.417		$\frac{\text{md. ft.}}{\text{cp}}$
Indicated Flow Capacity	$Kh = \frac{Kh}{\mu}\ \mu$	2.40		1.67		md. ft.
Average Effective	$K = \frac{Kh}{h}$	.218		.152		md.
Permeability	$K_1 = \frac{Kh}{h_1}$	-		-		md.
Damage Ratio	$DR = .183\ \frac{Ps - Pf}{m}$	.273		.271		—
Theoretical Potential w/Damage Removed	$Q_1 = Q\ DR$	4.25		2.95		bbls. day
Approx. Radius of Investigation	$b \leq \sqrt{Kt}$ or $\sqrt{Kt_0}$	1.47		1.23		ft.
	$b_1 \leq \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$	-		-		ft.
Potentiometric Surface *	$Pot. = El - GD + 2.319\ Ps$	1170.1		1147.1		ft.

INTERPRETATIONS AND CALCULATIONS



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

Initial Closed In Time	45		Minutes
Tool Open Flow Period	1st 10	2nd 60	Minutes
Final Closed In Time	48		Minutes

Depth Top Gauge	4712 Ft.	Blanked Off	No
BT P.R.D. No	1375		12 Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure	2500	2580	
Initial Closed in Pres.	1600	1599	
Initial Flow Pres.	10	12-19	
Final Flow Pres.	40	16-44	
Final Closed in Pres.	1580	1586	
Final Hydro Mud Pressure	2510	2518	
Depth Center Gauge	Ft.	Blanked Off	
BT P.R.D. No			Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure			
Initial Closed in Pres.			
Initial Flow Pres.			
Final Flow Pres.			
Final Closed in Pres.			
Final Hydro Mud Pressure			
Depth Bottom Gauge	4743 Ft.	Blanked Off	Yes
BT P.R.D. No	310		12 Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure	2495	2590	
Initial Closed in Pres.	1610	1611	
Initial Flow Pres.	5	32-43	
Final Flow Pres.	30	30-57	
Final Closed in Pres.	1595	1599	
Final Hydro Mud Pressure	2530	2541	
Amount-Type of Cushion	None		

Date 11-15-61

Ticket No. 325735

Halliburton District PRATT

Kind of Job OPEN HOLE

CONTRACTOR PATTON DRILLING COMPANY, INC.

HOLE & TOOL DATA

Elevation	1846' KB	Top Packer Depth	4732'
Total Depth	4747'	Bottom Packer Depth	4736'
Casing or Hole Size	7 7/8"	Size & Type Wall Packer	6 3/4" ESWP
Liner or Rathole Size	7 7/8"	Size Bottom Choke	5/8"
Casing Perforations	Top / Bottom	Size Surface Choke	1"
Interval Tested	4736-4747'	ID & Length Air Chamber	
Formation Tested	Simpson	ID & Length Drill Collars	2½" X 142'
Est. Gauge Depth Temp.	A-116 F°	Size Drill Pipe	4½" FH
MUD DATA Weight	10	Viscosity	50
All depths measured from	KB	No...Folders Reproduced	

REMARKS: Tool on bottom at 1:00. Opened tool at 1:03 with a weak blow, for 10 min. 1st flow. Closed tool at 1:13 for 45 min. ICIP. Reopened tool at 1:58 for 60 min. 2nd flow. Flushed tool at 2:28. Closed tool at 2:58 for 48 min. FCIP. Started out at 3:46. Anchor: 3½" ID- 5" OD x 11'. Tester valve: 4717'.

Recovered 70 Feet of Mud

Recovered Feet of

Recovered Feet of

Recovered Feet of

Witnessed By Denny Furst

Tester J.E. Parks

LOCATION NE NW SW 19-31 11

FIELD

COUNTY BARBER

STATE KANSAS

LEASE NAME SHAFT

WELL NO. C-1

TEST NO. 8

LEASE OWNER LARIO OIL & GAS COMPANY

OWNER'S DISTRICT KANSAS

Form No. 1295 R2

COMPANY LARIO OIL & GAS COMPANY

		Time	PSI
Initial Hydro Mud Pressure			2580
1st	Initial Flow		12
1st	Final Flow	10 mins.	16
Initial Closed In Pressure		45 mins.	1599
2nd	Initial Flow		19
2nd	Final Flow	60 mins.	44
Final Closed In Pressure		48 mins.	1586
Final Hydro Mud Pressure			2518

DATE 11-15-61

TICKET NO. 325735

LEASE SHAFT

Well No. C-1 Test No. 8

BT No. 1375 Depth 4712'

12 Hr. Clock

Temp. Corr. A-116 ° F

	1st Flow Pressure		Initial CIP		2nd Flow Pressure		Final CIP	
	Time	PSI	Time	PSI	Time	PSI	Time	PSI
P0	·000	12	000	16	·000	19	·000	44
P1	·069	16	0327	727	·1055	24	·0221	105*
P2	·		0654	1480	·2110	30	·0589	999
P3	·		0981	1546	·3165	39	·0957	1466
P4	·		.1308	1570	·4220	44	.1325	1523
P5	·		.1635	1582	·		.1693	1548
P6	·		.1962	1589	·		.2061	1562
P7	·		.2289	1592	·		.2429	1571
P8	·		.2616	1595	·		.2797	1579
P9	·		.2943	1598	·		.3165	1582
P10	·		.3270	1599	·		.3530	1586
		Minute Intervals	4.5	Minute Intervals	15	Minute Intervals	5	Minute Intervals

Remarks: *first interval = to 3 minutes

COMPANY LARIO OIL & GAS COMPANY

5

		Time	PSI
Initial Hydro Mud Pressure			2590
1st	Initial Flow		32
1st	Final Flow	10 mins.	30
Initial Closed In Pressure		45 mins.	1611
2nd	Initial Flow		43
2nd	Final Flow	60 mins.	57
Final Closed In Pressure		48 mins.	1599
Final Hydro Mud Pressure			2541

DATE 11-15-61

TICKET NO. 325735

LEASE SHAFT

Well No. C-1 Test No. 8

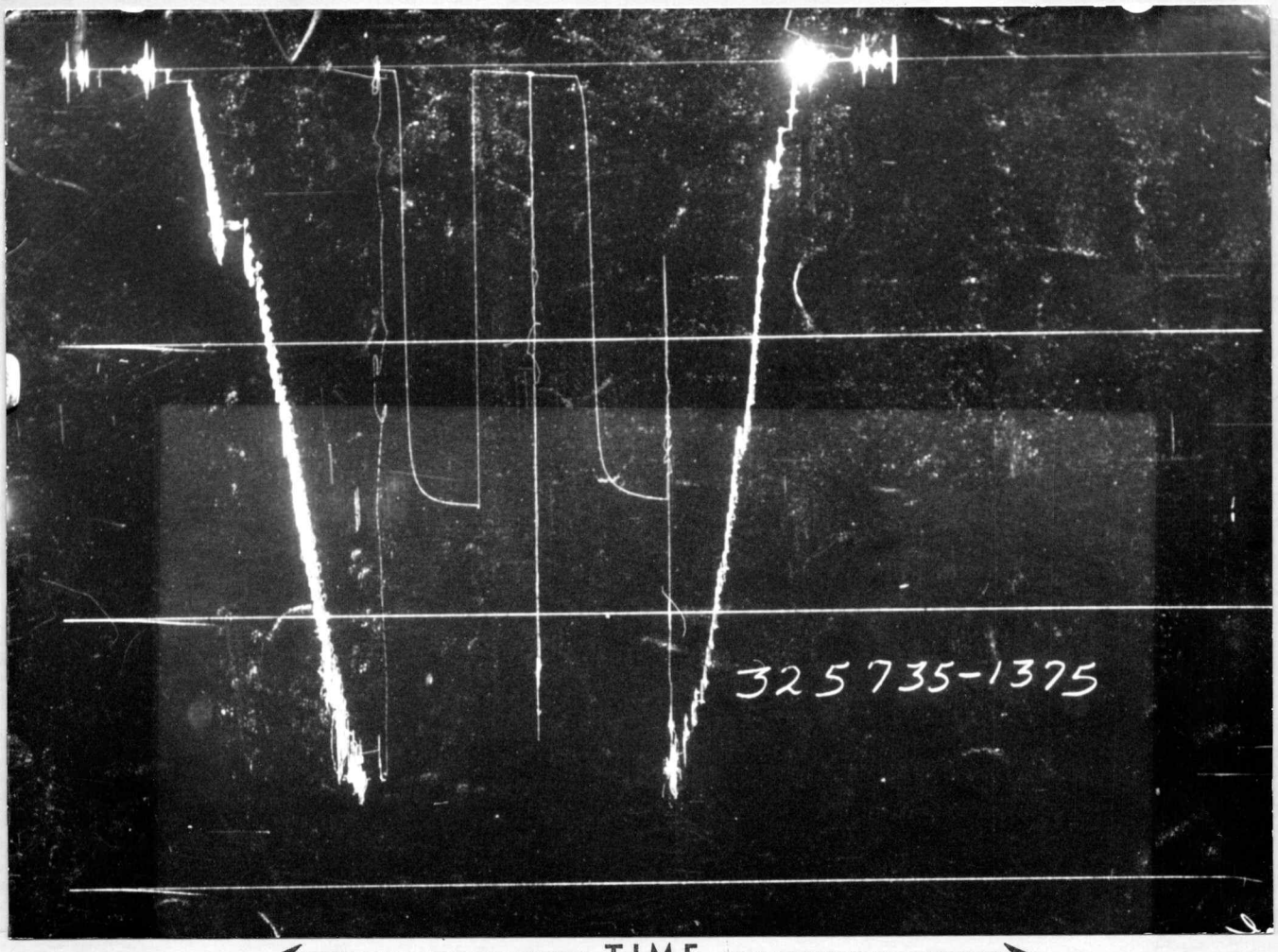
BT No. 310 Depth 4743'

12 Hr. Clock

Temp. Corr. A-116 ° F

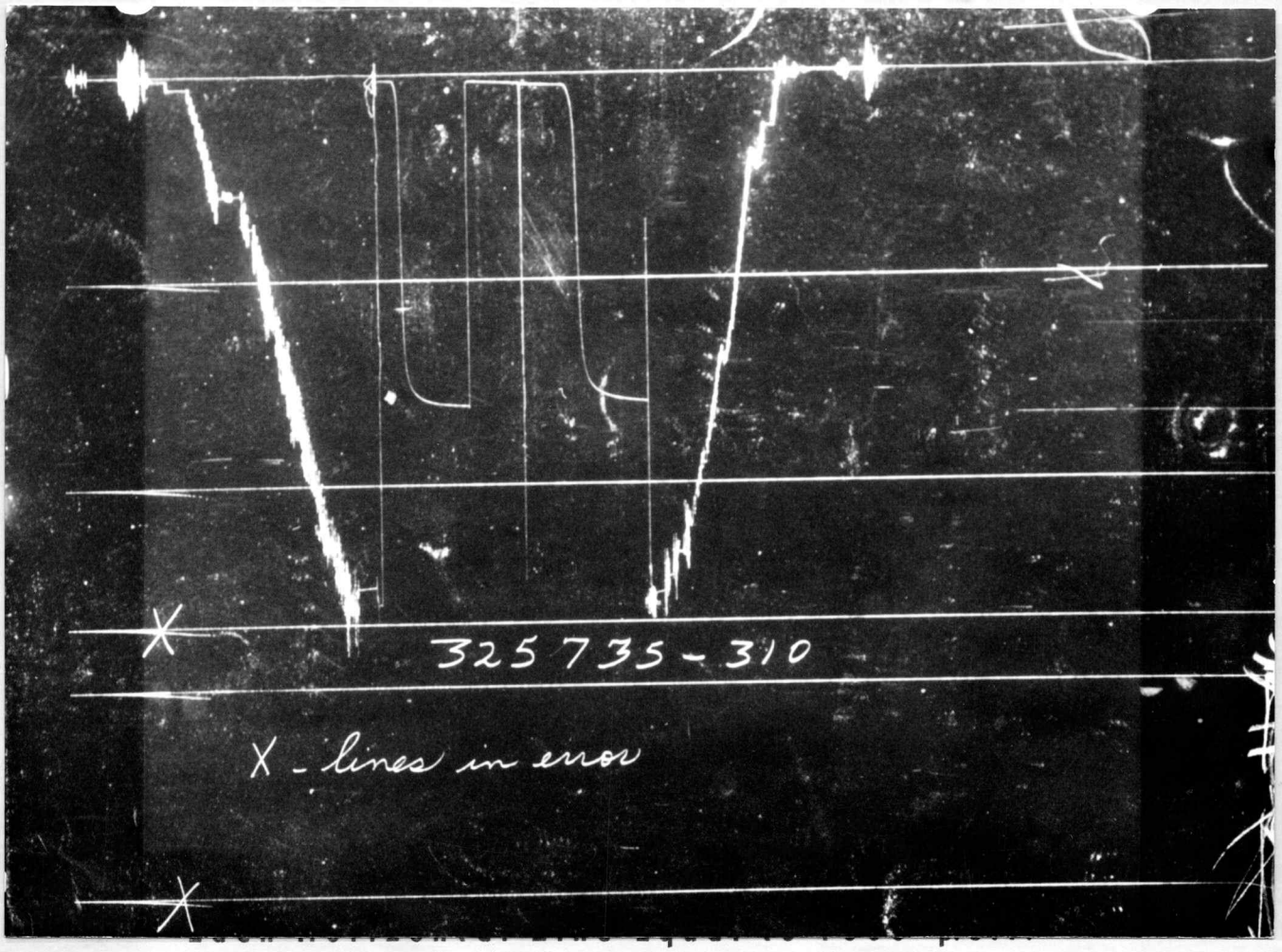
	1st Flow Pressure		Initial CIP		2nd Flow Pressure		Final CIP	
	Time	PSI	Time	PSI	Time	PSI	Time	PSI
P0	·000	32	000	30	·000	43	·000	57
P1	·068	30	0302	938	·0987	38	·0207	105*
P2	·		0604	1510	·1974	43	·0553	1076
P3	·		0906	1561	·2961	54	·0899	1484
P4	·		·1208	1583	·3950	57	·1245	1540
P5	·		·1510	1595	·		·1591	1565
P6	·		·1812	1603	·		·1937	1577
P7	·		2114	1606	·		·2283	1586
P8	·		2416	1609	·		·2629	1592
P9	·		2718	1610	·		·2975	1595
P10	·		3020	1611	·		·3320	1599
		Minute Intervals	4.5	Minute Intervals	15	Minute Intervals	5	Minute Intervals

Remarks: *First interval = to 3 minutes



PRESSURE

TIME



Initial Closed In Time	45		Minutes
Tool Open Flow Period 1st	10	2nd 90	Minutes
Final Closed In Time	45		Minutes

Depth Top Gauge	4829 Ft.	Blanked Off	NO
BT P.R.D. No	1375		12 Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure	2505	2535	
Initial Closed in Pres.	1710	1708	
Initial Flow Pres.	30	17-49	
Final Flow Pres.	125	43-138	
Final Closed in Pres.	1610	1614	
Final Hydro Mud Pressure	2500	2510	

Depth Center Gauge	Ft.	Blanked Off	
BT P.R.D. No			Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure			
Initial Closed in Pres.			
Initial Flow Pres.			
Final Flow Pres.			
Final Closed in Pres.			
Final Hydro Mud Pressure			

Depth Bottom Gauge	4857 Ft.	Blanked Off	YES
BT P.R.D. No	310		12 Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure	2550	2553	
Initial Closed in Pres.	1730	1722	
Initial Flow Pres.	40	45-73	
Final Flow Pres.	140	60-152	
Final Closed in Pres.	1630	1630	
Final Hydro Mud Pressure	2520	2538	

Amount-Type of Cushion -

Date 11-18-61

Ticket No. 325737

Halliburton District PRATT, KANSAS

Kind of Job OPEN HOLE TEST

CONTRACTOR PATTON DRILLING COMPANY

HOLE & TOOL DATA

Elevation	1846'	Top Packer Depth	4840'
Total Depth	4860'	Bottom Packer Depth	4844'
Casing or Hole Size	7 7/8"	Size & Type Wall Packer	6 3/4" ESWP
Liner or Rathole Size	7 7/8"	Size Bottom Choke	5/8"
Casing Perforations Top / Bottom		Size Surface Choke	1"
Interval Tested	4844'-4860'	ID & Length Air Chamber	Dual CIP
Formation Tested	ARBUCKLE	ID & Length Drill Collars	2¼" - 142'
Est. Gauge Depth Temp.	ACT. 118 F°	Size Drill Pipe	4½" FH
MUD DATA Weight	9.9	Viscosity	47
All depths measured from	KELLY BUSHINGS	No...Folders Reproduced	5

REMARKS: Opened tool for 10 minute 1st flow at 1:42 with weak blow. Closed tool at 1:52 for 45 minute initial closed in pressure. Reopened tool for 90 minute 2nd flow at 2:37. Closed tool for 45 minute final closed in pressure at 4:07. Water gravity-1.55. ANCHOR - 3" ID x 5" OD x 16'.

Recovered 30 Feet of Froggy oil

Recovered 240 Feet of Saltwater

Recovered Feet of

Recovered Feet of

Witnessed By Denny Furst

Tester J. E. Parks

LOCATION SEC. 19 - 31NW - 14SW

FIELD

COUNTY BARBER

STATE KANSAS

LEASE NAME SHAFT

WELL NO. C-1

TEST NO. 10

LEASE OWNER LARIO OIL & GAS COMPANY

OWNERS DISTRICT KANSAS

Form No. 1295 R2

COMPANY LARIO OIL & GAS COMPANY

		Time	PSI
Initial Hydro Mud Pressure			2535
1st	Initial Flow		17
1st	Final Flow	10 min.	43
Initial Closed In Pressure		45 min.	1708
2nd	Initial Flow		49
2nd	Final Flow	90 min.	138
Final Closed In Pressure		45 min.	1614
Final Hydro Mud Pressure			2510

DATE 11-18-61

TICKET NO. 325737

LEASE SHAFT

Well No. C-1 Test No. 10

BT No. 1375 Depth 4829'

12 Hr. Clock

Temp. Corr. Act. 118 ° F

	1st Flow Pressure		Initial CIP		2nd Flow Pressure		Final CIP	
	Time	PSI	Time	PSI	Time	PSI	Time	PSI
P0	.000	17	.000	43	.000	49	.000	138
P1	.0152	24	.0319	1467	.107	69	.0324	1271
P2	.0304	28	.0638	1606	.214	85	.0648	1427
P3	.0456	34	.0957	1651	.321	100	.0972	1490
P4	.0608	38	.1276	1673	.428	113	.1296	1527
P5	.0760	43	.1595	1685	.535	126	.1620	1553
P6	.		.1914	1693	.642	138	.1944	1571
P7	.		.2233	1699	.		.2268	1585
P8	.		.2552	1702	.		.2592	1597
P9	.		.2871	1706	.		.2916	1606
P10	.		.3190	1708	.		.3240	1614
	2	Minute Intervals	4.5	Minute Intervals	15	Minute Intervals	4.5	Minute Intervals

Remarks:

FORM 1297-R2--SANDEFER

COMPANY LARIO OIL & GAS COMPANY

		Time	PSI
Initial Hydro Mud Pressure			2553
1st	Initial Flow		45
1st	Final Flow	10 min.	60
Initial Closed In Pressure		45 min.	1722
2nd	Initial Flow		73
2nd	Final Flow	90 min.	152
Final Closed In Pressure		45 min.	1630
Final Hydro Mud Pressure			2538

DATE 11-18-61

TICKET NO. 325737

LEASE SHAFT

Well No. C-1 Test No. 10

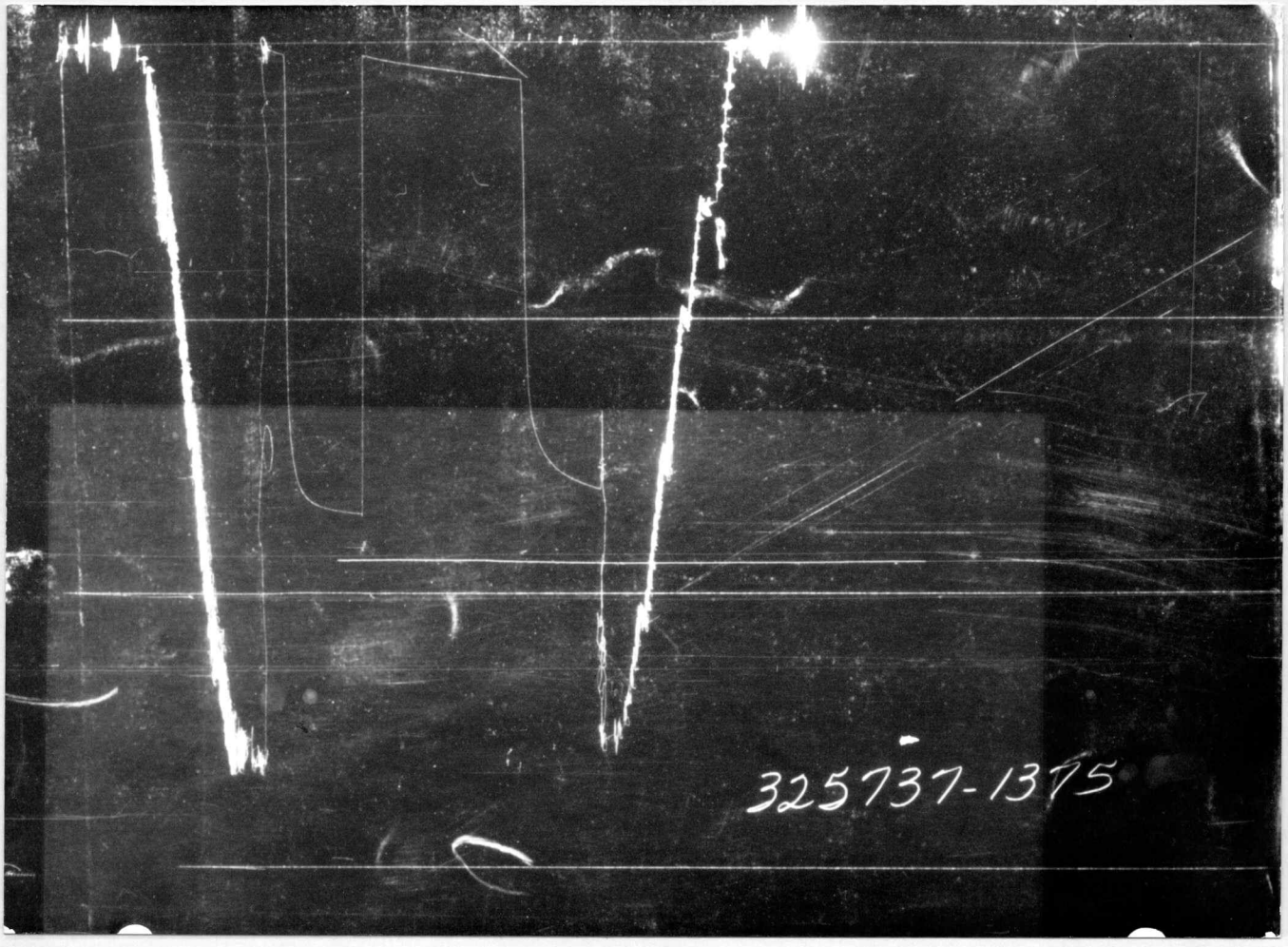
BT No. 310 Depth 4857'

12 Hr. Clock

Temp. Corr. Act. 118 ° F

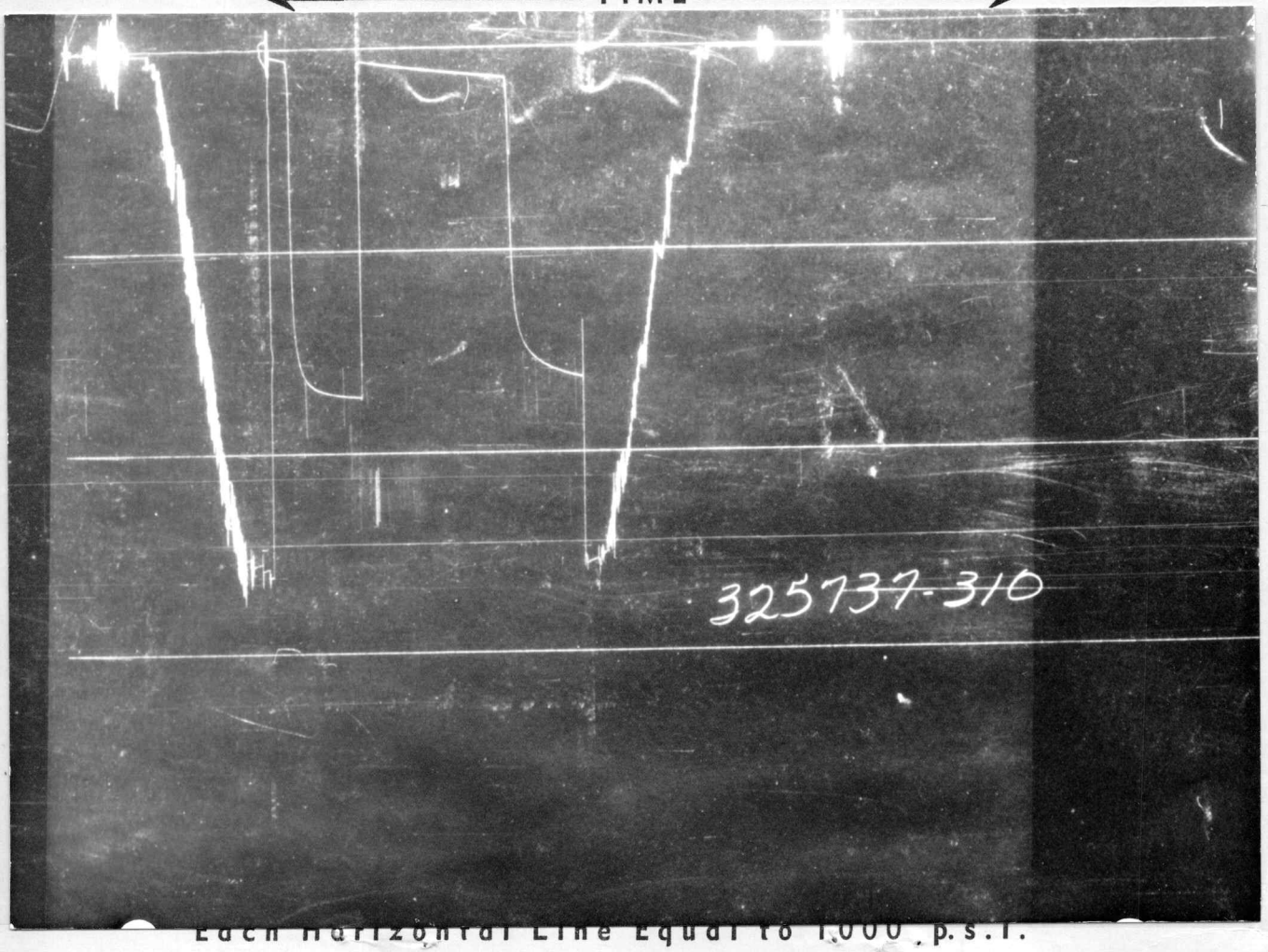
	1st Flow Pressure		Initial CIP		2nd Flow Pressure		Final CIP	
	Time	PSI	Time	PSI	Time	PSI	Time	PSI
P0	.000	45	.000	60	.000	73	.000	152
P1	.0142	44	.030	1467	.101	85	.0307	1287
P2	.0284	48	.060	1617	.202	101	.0614	1448
P3	.0426	52	.090	1665	.303	116	.0921	1509
P4	.0568	56	.120	1687	.404	128	.1228	1543
P5	.0710	60	.150	1699	.505	140	.1535	1567
P6	.		.180	1709	.606	152	.1842	1586
P7	.		.210	1714	.		.2149	1600
P8	.		.240	1718	.		.2456	1612
P9	.		.270	1720	.		.2763	1621
P10	.		.300	1722	.		.3070	1630
	2	Minute Intervals	4.5	Minute Intervals	15	Minute Intervals	4.5	Minute Intervals

Remarks:



PRESSURE

TIME



Each Horizontal Line Equal to 1,000 p.s.i.

Initial Closed In Time	45	Minutes	
Tool Open Flow Period 1st / 2nd	10 / 60	Minutes	
Final Closed In Time	45	Minutes	

Depth Top Gauge	4732 Ft.	Blanked Off	NO
BT P.R.D. No	1375		12 Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure	2475	2478	
Initial Closed in Pres.	1575	1584	
Initial Flow Pres.	60	29-83	
Final Flow Pres.	225	66-236	
Final Closed in Pres.	1545	1548	
Final Hydro Mud Pressure	2475	2478	

Depth Center Gauge	Ft.	Blanked Off	
BT P.R.D. No			Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure			
Initial Closed in Pres.			
Initial Flow Pres.			
Final Flow Pres.			
Final Closed in Pres.			
Final Hydro Mud Pressure			

Depth Bottom Gauge	4759 Ft.	Blanked Off	YES
BT P.R.D. No	310		12 Hr. Clock
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure	2500	2526	
Initial Closed in Pres.	1595	1595	
Initial Flow Pres.	70	54-98	
Final Flow Pres.	230	78-245	
Final Closed in Pres.	1570	1561	
Final Hydro Mud Pressure	2520	2520	

Amount-Type of Cushion	-

Date 11-16-61

Ticket No. 325736

Halliburton District PRATT

Kind of Job OPEN HOLE TEST

CONTRACTOR PATTEN DRILLING COMPANY, INC.

HOLE & TOOL DATA

Elevation	1846'	Top Packer Depth	4743'
Total Depth	4762'	Bottom Packer Depth	4747'
Casing or Hole Size	7 7/8"	Size & Type Wall Packer	6 3/4" ESWP
Liner or Rathole Size	7 7/8"	Size Bottom Choke	5/8"
Casing Perforations	Top / Bottom	Size Surface Choke	1"
Interval Tested	4747'-4762'	ID & Length Air Chamber	Dual CIP
Formation Tested	SIMPSON	ID & Length Drill Collars	2¼" x 142'
Est. Gauge Depth Temp.	ACT. 116 F°	Size Drill Pipe	4½" FH
MUD DATA Weight	9.9	Viscosity	46
All depths measured from	KELLY BUSHINGS	No...Folders Reproduced	5

REMARKS: Opened tool at 9:03 with fair blow for 10 minutes. Closed tool at 9:13 for 45 minute initial closed in pressure. Reopened 9:58 for 60 minute 2nd flow. Closed tool at 10:58 for 45 minute final closed in pressure. Tester depth 4728'. ANCHOR - 3½" ID x 5" OD x 15'.

Recovered 225 Feet of Oil & gas cut mud

Recovered 255 Feet of Muddy salty water

Recovered Feet of

Recovered Feet of

Witnessed By Denny Furst

Tester J. E. Parks

LOCATION SEC. 19 - 31 - 14

FIELD

COUNTY BARBER

STATE KANSAS

LEASE NAME SHAFT

WELL NO. C-1

TEST NO. 9

LEASE OWNER LARIO OIL & GAS COMPANY

OWNERS DISTRICT KANSAS

19-31-14W

Form No. 1295 R2

COMPANY LARIO OIL & GAS COMPANY

5

		Time	PSI
Initial Hydro Mud Pressure			2478
1st	Initial Flow		29
	Final Flow	10 min.	66
Initial Closed In Pressure		45 min.	1584
2nd	Initial Flow		83
	Final Flow	60 min.	236
Final Closed In Pressure		45 min.	1548
Final Hydro Mud Pressure			2478

DATE 11-16-61

TICKET NO. 325736

LEASE SHAFT

Well No. C-1 Test No. 9

BT No. 1375 Depth 4732'

12 Hr. Clock

Temp. Corr. Act. 116 ° F

	1st Flow Pressure		Initial CIP		2nd Flow Pressure		Final CIP	
	Time	PSI	Time	PSI	Time	PSI	Time	PSI
P0	.000	29	.000	66	.000	83	.000	236
P1	.0136	42	.0321	1353	.1068	125	.0221	1270
P2	.0272	48	.0642	1467	.2136	163	.0642	1384
P3	.0408	54	.0963	1510	.3204	200	.0963	1436
P4	.0544	61	.1284	1534	.4270	236	.1284	1468
P5	.0680	66	.1605	1549	.		.1605	1490
P6	.		.1926	1561	.		.1926	1506
P7	.		.2247	1570	.		.2247	1520
P8	.		.2568	1576	.		.2568	1532
P9	.		.2889	1581	.		.2889	1540
P10	.		.3210	1584	.		.3210	1548
	2	Minute Intervals	4.5	Minute Intervals	15	Minute Intervals	4.5	Minute Intervals

Remarks:

FORM 1207-B2 - SANDEFER

COMPANY LARIO OIL & GAS COMPANY

		Time	PSI
Initial Hydro Mud Pressure			2526
1st	Initial Flow		54
1st	Final Flow	10 min.	78
Initial Closed In Pressure		45 min.	1595
2nd	Initial Flow		98
2nd	Final Flow	60 min.	245
Final Closed In Pressure		45 min.	1561
Final Hydro Mud Pressure			2520

DATE 11-16-61

TICKET NO. 325736

LEASE SHAFT

Well No. C-1 Test No. 9

BT No. 310 Depth 4759'

12 Hr. Clock

Temp. Corr. Act. 116 ° F

	1st Flow Pressure		Initial CIP		2nd Flow Pressure		Final CIP	
	Time	PSI	Time	PSI	Time	PSI	Time	PSI
P0	.000	54	.000	78	.000	98	.000	245
P1	.0134	52	.030	1346	.101	135	.0303	1284
P2	.0268	59	.060	1474	.202	176	.0606	1401
P3	.0402	65	.090	1520	.303	211	.0909	1452
P4	.0536	71	.120	1545	.404	245	.1212	1484
P5	.0670	78	.150	1561	.		.1515	1506
P6	.		.180	1573	.		.1818	1523
P7	.		.210	1582	.		.2121	1535
P8	.		.240	1588	.		.2424	1546
P9	.		.270	1593	.		.2727	1555
P10	.		.300	1595	.		.3030	1561
	2	Minute Intervals	4.5	Minute Intervals	15	Minute Intervals	4.5	Minute Intervals

Remarks:

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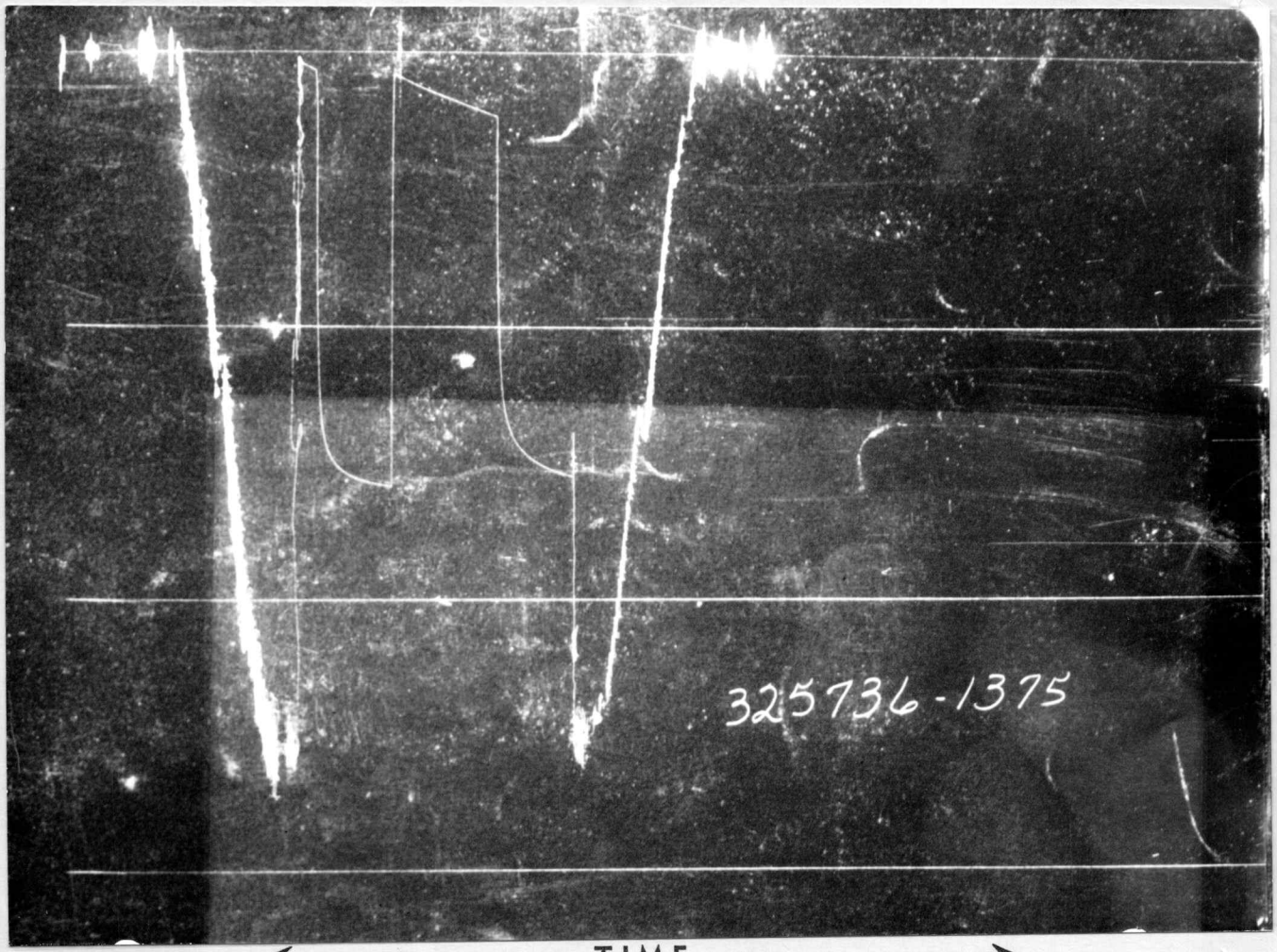

PRESSURE

TIME