

Legal Location
Sec. - Twp. - Rng.

12 - 9 - 20

Lease Name

Well No.

Test No.

Tested Interval

Field Area

WILDCAT

County

ROOKS

State

KANSAS

HINKLE OIL COMPANY
Lease Owner/Company Name

LAMBERT

1

1

3231' - 3254'

HINKLE OIL COMPANY

Legal Location
Sec. - Twp. - Rng.

12 - 9 - 20

Lease Name

Well No.

Test No.

Tested Interval

Field Area

WILDCAT

County

ROOKS

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KANSAS

HINKLE OIL COMPANY
Lease Owner/Company Name

LAMBERT

1

1

3231' - 3254'

HINKLE OIL COMPANY

FLUID SAMPLER DATA				Date 6-10-70		Ticket Number 220535	
Sampler Pressure _____ P.S.I.G. at Surface				Kind of Job OPEN HOLE		Halliburton District HAYS	
Recovery: Cu. Ft. Gas _____				Tester MR. JOSLIN		Witness MR. HOWELL	
cc. Oil _____				Drilling Contractor ASPEN DRILLING COMPANY IC S			
cc. Water _____				EQUIPMENT & HOLE DATA			
cc. Mud _____				Formation Tested Topeka			
Tot. Liquid cc. _____				Elevation 2097' KB			
Gravity _____ ° API @ _____ °F.				Net Productive Interval _____ Ft.			
Gas/Oil Ratio _____ cu. ft./bbl.				All Depths Measured From Kelly Bushing			
RESISTIVITY _____ CHLORIDE CONTENT _____				Total Depth 3254' Ft.			
Recovery Water _____ @ _____ °F. _____ ppm				Main Hole/Casing Size 7 7/8"			
Recovery Mud _____ @ _____ °F. _____ ppm				Drill Collar Length 1050' FH W.D. 2.25"			
Recovery Mud Filtrate _____ @ _____ °F. _____ ppm				Drill Pipe Length 2160' I.D. 3.340"			
Mud Pit Sample _____ @ _____ °F. _____ ppm				Packer Depth(s) 3226' - 3231' Ft.			
Mud Pit Sample Filtrate 9.8 @ _____ °F. _____ ppm				Depth Tester Valve 3222' Ft.			
Mud Weight 9.8 vis 45 cp							
TYPE		AMOUNT		Depth Back		Surface	
Cushion		-		Ft. Pres. Valve		Choke 1/4" Bottom Choke 3/4"	
Recovered		860 Feet of		Muddy saltwater			
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Remarks Opened tool for 29 minute first flow with a weak blow to strong in 20 minutes. Closed tool for 30 minute initial closed in pressure. Reopened tool for 60 minute second flow with a strong blow. Closed tool for 31 minute second closed in pressure.							
TEMPERATURE		Gauge No. 534		Gauge No. 533		Gauge No.	
Depth: 3232' Ft.		Depth: 3250' Ft.		Depth: Ft.		TIME	
Est. 102 °F.		12 Hour Clock		12 Hour Clock		Hour Clock	
Blanked Off NO		Blanked Off YES		Blanked Off		Tool A.M.	
3249' @						Opened 10:00 XXXX.	
Actual 102 °F.						Tool XXXX.	
Pressures		Pressures		Pressures		Closed 12:30 P.M.	
Field Office		Field Office		Field Office		Reported Computed	
Initial Hydrostatic - 1702 1750 1716						Minutes Minutes	
Flow Initial - 18 19 21							
Flow Final - 139 162 151							
Closed in - 1185 1197 1196							
Flow Initial - 149 171 157							
Flow Final - 373 381 383							
Closed in - 1171 1188 1182							
Flow Initial -							
Flow Final -							
Closed in -							
Final Hydrostatic - 1702 1721 1716							

Gauge No.		534		Depth		3232'		Clock No.		3227		12 hour		Ticket No.		220535	
First Flow Period		First Closed In Pressure		Second Flow Period		Second Closed In Pressure		Third Flow Period		Third Closed In Pressure		Third Flow Period		Third Closed In Pressure		Third Flow Period	
Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log} \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log} \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log} \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log} \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log} \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"
0	.000 18	.000		139	.000		149	.000		373	.000		373				
1	.0389 42	.0211		1103	.0673		188	.0202		1101	.0202		1101				
2	.0778 69	.0422		1138	.1346		228	.0404		1128	.0404		1128				
3	.1167 97	.0633		1154	.2019		265	.0606		1142	.0606		1142				
4	.1556 121	.0844		1164	.2692		301	.0808		1150	.0808		1150				
5	.1880 139*	.1055		1170	.3365		337	.1010		1155	.1010		1155				
6		.1266		1174	.4040		373	.1212		1160	.1212		1160				
7		.1477		1178				.1414		1164	.1414		1164				
8		.1688		1181				.1616		1167	.1616		1167				
9		.1899		1183				.1818		1169	.1818		1169				
10		.2110		1185				.2090		1171**	.2090		1171**				
11																	
12																	
13																	
14																	
15																	

Gauge No.		533		Depth		3250'		Clock No.		2414		12 hour	
First Flow Period		First Closed In Pressure		Second Flow Period		Second Closed In Pressure		Third Flow Period		Third Closed In Pressure		Third Flow Period	
Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log} \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log} \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log} \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log} \frac{t + \theta}{\theta}$	PSIG Temp. Corr.
0	.000 21	.000		151	.000		157	.000		383	.000		383
1	.0408 49	.0207		1110	.0678		197	.0203		1102	.0203		1102
2	.0817 79	.0414		1152	.1356		237	.0406		1139	.0406		1139
3	.1225 106	.0621		1168	.2034		275	.0609		1153	.0609		1153
4	.1634 130	.0828		1177	.2712		312	.0812		1161	.0812		1161
5	.1970 151*	.1035		1182	.3390		349	.1015		1167	.1015		1167
6		.1242		1187	.4070		383	.1218		1172	.1218		1172
7		.1449		1191				.1421		1176	.1421		1176
8		.1656		1193				.1624		1178	.1624		1178
9		.1863		1195				.1827		1180	.1827		1180
10		.2070		1196				.2100		1182**	.2100		1182**
11													
12													
13													
14													
15													
Reading Interval 6		3		10		3		Minutes					

REMARKS: *Last interval equal to 5 minutes **Last interval equal to 4 minutes

REMARKS: *Last interval equal to 5 minutes **Last interval equal to 4 minutes

220535

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4"	3.340"	2160'	
Drill Collars		2.25"	126' FLEX WEIGHT (1050' FW WP)	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				3222'
Hydro-Spring Tester	5"	.75"	5'	
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	4'	3226'
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3231'
Flush Joint Anchor				
Pressure Equalizing Tube				
Drill Collars B.T. Running Case	5"	3.06"	4'	3232'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.76"	14'	
Blanked-Off B.T. Running Case w/temp.	5"		5'	3250'

TEMPERATURE RECORDER CHART

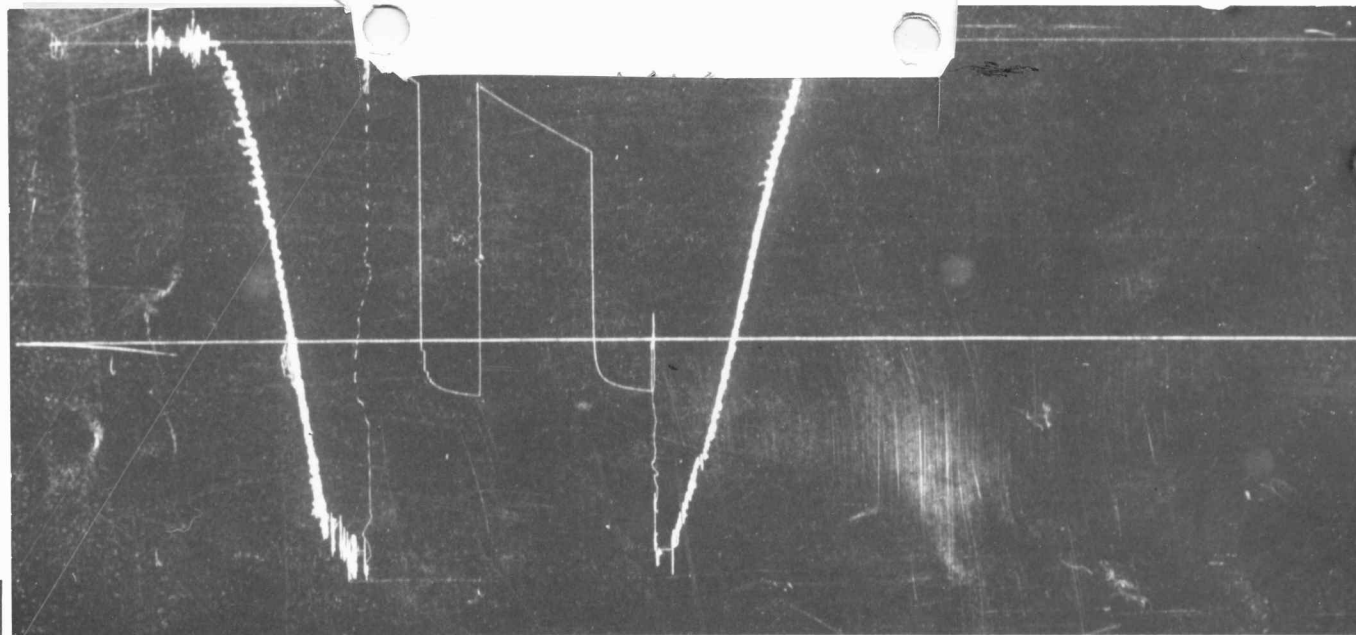


10° each circle

- OF_3 = Theoretical Open Flow Potential with/Damage Removed Max. . . . MCF/D
 OF_4 = Theoretical Open Flow Potential with/Damage Removed Min. . . . MCF/D
 P_s = Extrapolated Static Pressure Psig.
 P_f = Final Flow Pressure Psig.
 P_{or} = Potentiometric Surface (Fresh Water *) Feet
 Q = Average Adjusted Production Rate During Test bbls/day
 Q_1 = 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

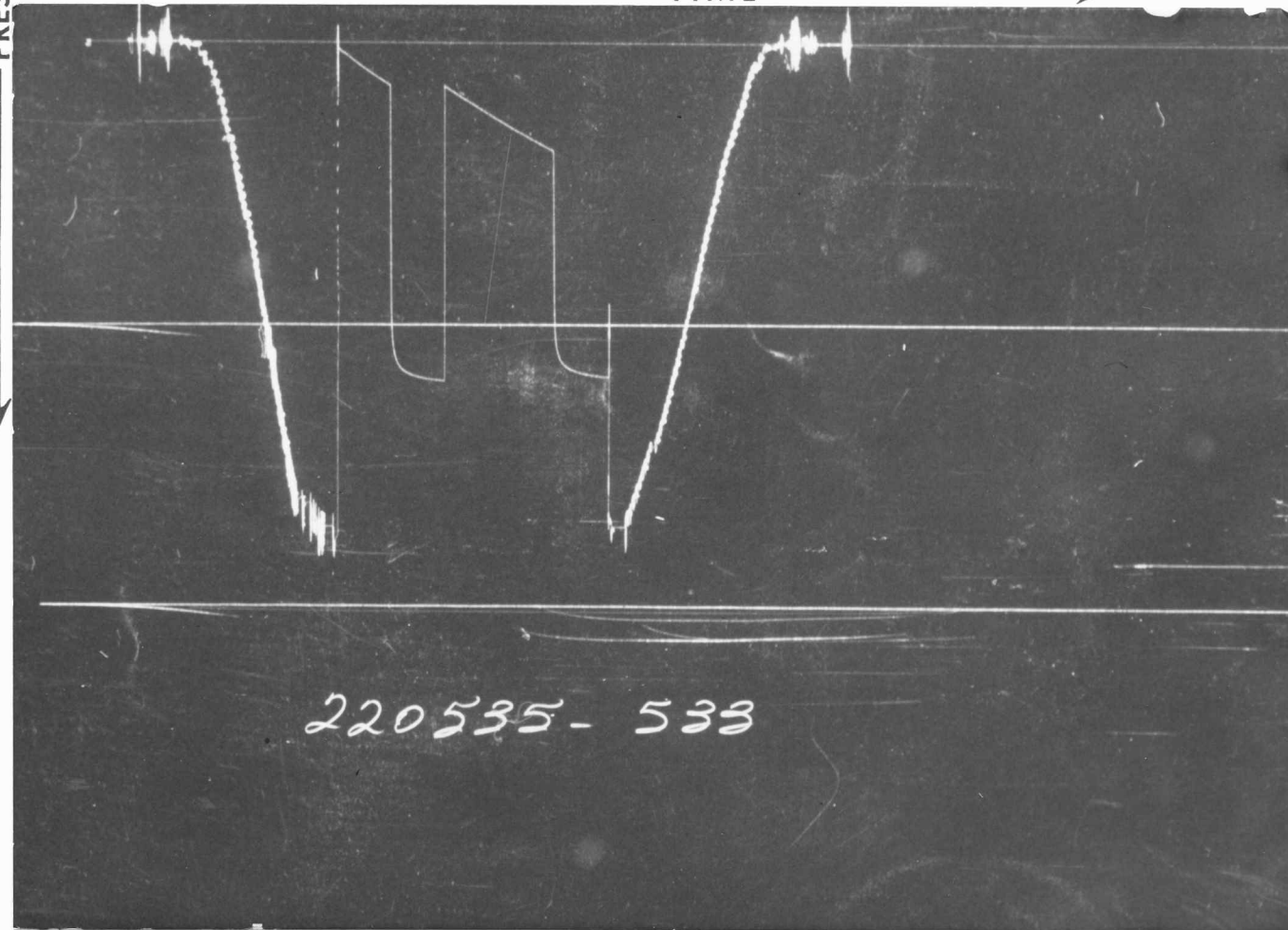
* Potentiometric Surface Reference to Rotary Table When Elevation Not Given,
Fresh Water Corrected to 100° F.

PRESSURE



220535-534

TIME



220535-533

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

FLUID SAMPLER DATA				Date 6-11-70		Ticket Number 220536	
Sampler Pressure _____ P.S.I.G. at Surface Recovery: Cu. Ft. Gas _____ cc. Oil _____ cc. Water _____ cc. Mud _____ Tot. Liquid cc. _____				Kind of Job OPEN HOLE		Halliburton District HAYS	
				Tester H. JOSLIN		Witness O. HOWELL	
Gravity _____ ° API @ _____ °F.				Drilling Contractor ASPEN DRILLING COMPANY RIG # 3 sm S			
Gas/Oil Ratio _____ cu. ft./bbl.				EQUIPMENT & HOLE DATA			
				Formation Tested Toronto			
				Elevation _____ Ft.			
				Net Productive Interval _____ Ft.			
				All Depths Measured From Kelly bushing			
				Total Depth 3345' Ft.			
				Main Hole/Casing Size 7 7/8"			
				Drill Collar Length _____ I.D. 2.25"			
				Drill Pipe Length _____ I.D. 3.340"			
				Packer Depth(s) 3286-3291' Ft.			
				Depth Tester Valve 3282' Ft.			
		RESISTIVITY	CHLORIDE CONTENT				
Recovery Water	_____ @ _____ °F.	_____ ppm					
Recovery Mud	_____ @ _____ °F.						
Recovery Mud Filtrate	_____ @ _____ °F.	_____ ppm					
Mud Pit Sample	_____ @ _____ °F.						
Mud Pit Sample Filtrate	10 @ _____ °F.	_____ ppm					
Mud Weight	_____ vis	49 cp					
TYPE		AMOUNT	Depth Back Pres. Valve	Surface Choke	Bottom Choke		
Cushion			Ft.	1/4"	3/4"		
Recovered	190	Feet of	mud with a few spots of oil				
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Remarks Tool opened for a 31 minute first flow. Closed for 31 minute first closed in pressure. Tool reopened for 60 minute second flow. Took a 28 minute closed in pressure.							
TEMPERATURE		Gauge No. 534	Gauge No. 533	Gauge No.	TIME		
Depth: _____ Ft.		Depth: _____ Ft.	Depth: _____ Ft.				
Est. 103 °F.		Blanked Off no	Blanked Off yes	Hour Clock		Tool _____ A.M.	
Actual 103 °F.						Opened 7:30 P.M.	
						Tool _____ A.M.	
						Closed 10:00 P.M.	
						Reported	Computed
						Minutes	Minutes
First Period	Initial Hydrostatic	Field	Office	Field	Office		
		-	1759	-	1788		
	Flow Initial	-	12	-	39		
Second Period	Flow Final	-	54	-	81		
	Closed in	-	1170	-	1201	30	31
	Flow Initial	-	56	-	84		
Third Period	Flow Final	-	125	-	154	60	60
	Closed in	-	1122	-	1153	30	28
	Flow Initial	-		-			
	Flow Final	-		-			
	Closed in	-		-			
	Final Hydrostatic	-	1759	-	1787		

LAMBERT
 Lease Name
12 9 20
 Well No.
2
 Test No.
3291-3345'
 Tested Interval
WILDCAT
 County
ROOKS
 State
KANSAS
 Lease Owner/Company Name
HINKLE OIL COMPANY

Gauge No. 534		Depth 3292'		Clock No. 3227		12 hour		Ticket No. 220536	
First Flow Period		First Closed In Pressure		Second Flow Period		Second Closed In Pressure		Third Flow Period	
Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.
0 .000	12	.000		.000	56	.000			
1 .0335	21	.0202		.0662	70	.0201			
2 .0670	27	.0404		.1324	80	.0402			
3 .1005	33	.0606		.1986	91	.0603			
4 .1340	40	.0808		.2648	102	.0804			
5 .1675	45	.1010		.3310	114	.1005			
6 .208*	54	.1212		.3970	125	.1206			
7		.1414				.1407			
8		.1616				.1608			
9		.1818				.188**			
10		.209**							
11									
12									
13									
14									
15									

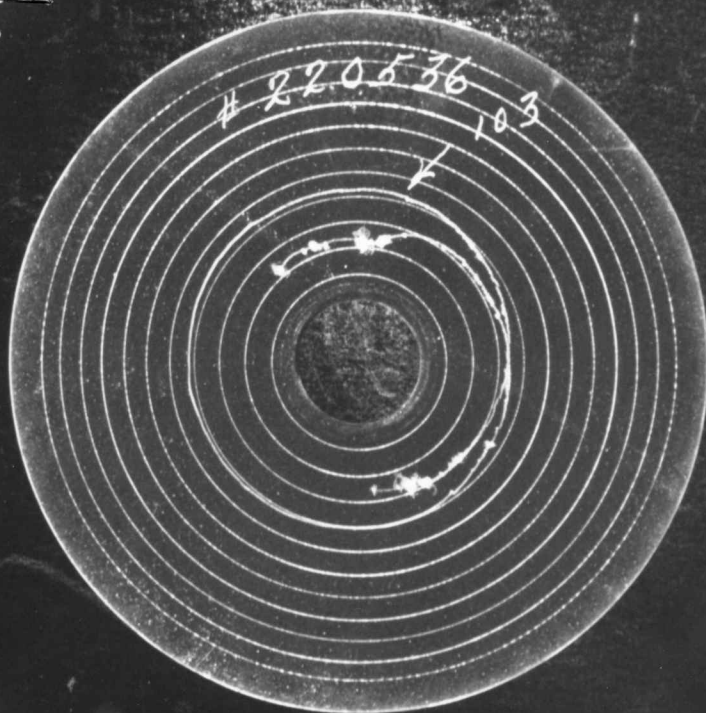
Gauge No. 533		Depth 3341'		Clock No. 2414		12 hour	
Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.
0 .000	39	.000		.000	84		
1 .0342	50	.0201		.0668	98	.0203	
2 .0684	56	.0402		.1336	109	.0406	
3 .1026	62	.0603		.2004	119	.0609	
4 .1368	69	.0804		.2672	130	.0812	
5 .1710	74	.1005		.3340	142	.1015	
6 .212*	81	.1206		.4010	154	.1218	
7		.1407				.1421	
8		.1608				.1624	
9		.1809				.189**	
10		.208**					
11							
12							
13							
14							
15							
Reading Interval 5		3		10		3	Minutes

REMARKS: *Last interval is equal to 6 minutes. **Last = 4 minutes.



	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe 4" FH WP	4"	3.340"	2220'	
Drill Collars	-	2.25"	1050'	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3282'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	4'	3286'
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3291'
Flush Joint Anchor				
Pressure Equalizing Tube				
AP Blanked-Off B.T. Running Case	5"	3.06"	4'	3292'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars	4" FH Reg.	3.24"	32'	
Flush Joint Anchor	5"	2.76"	13'	
Blanked-Off B.T. Running Case W/Temp.	5"	-	5'	3341'

TEMPERATURE RECORDER CHART

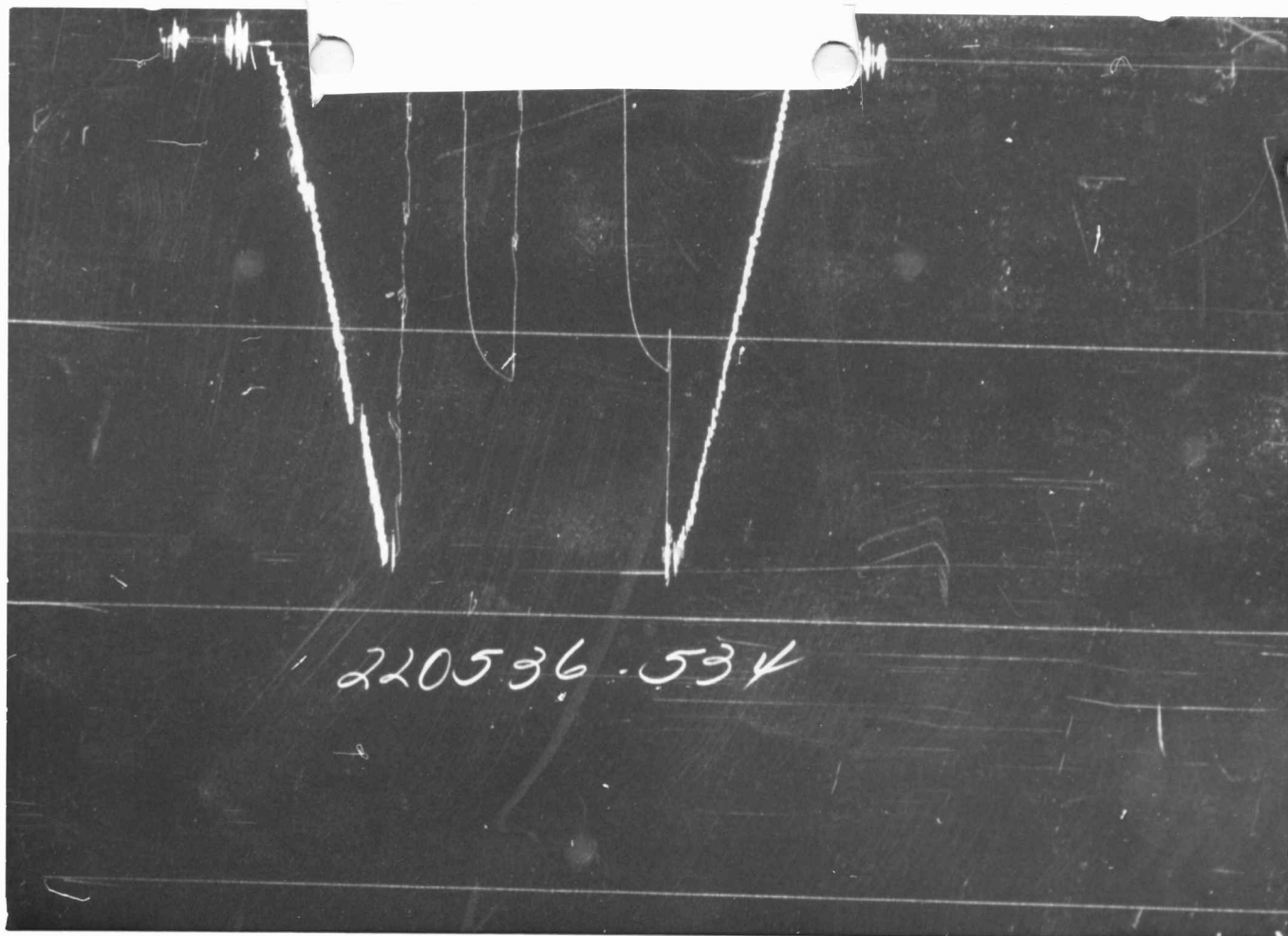


10° each circle

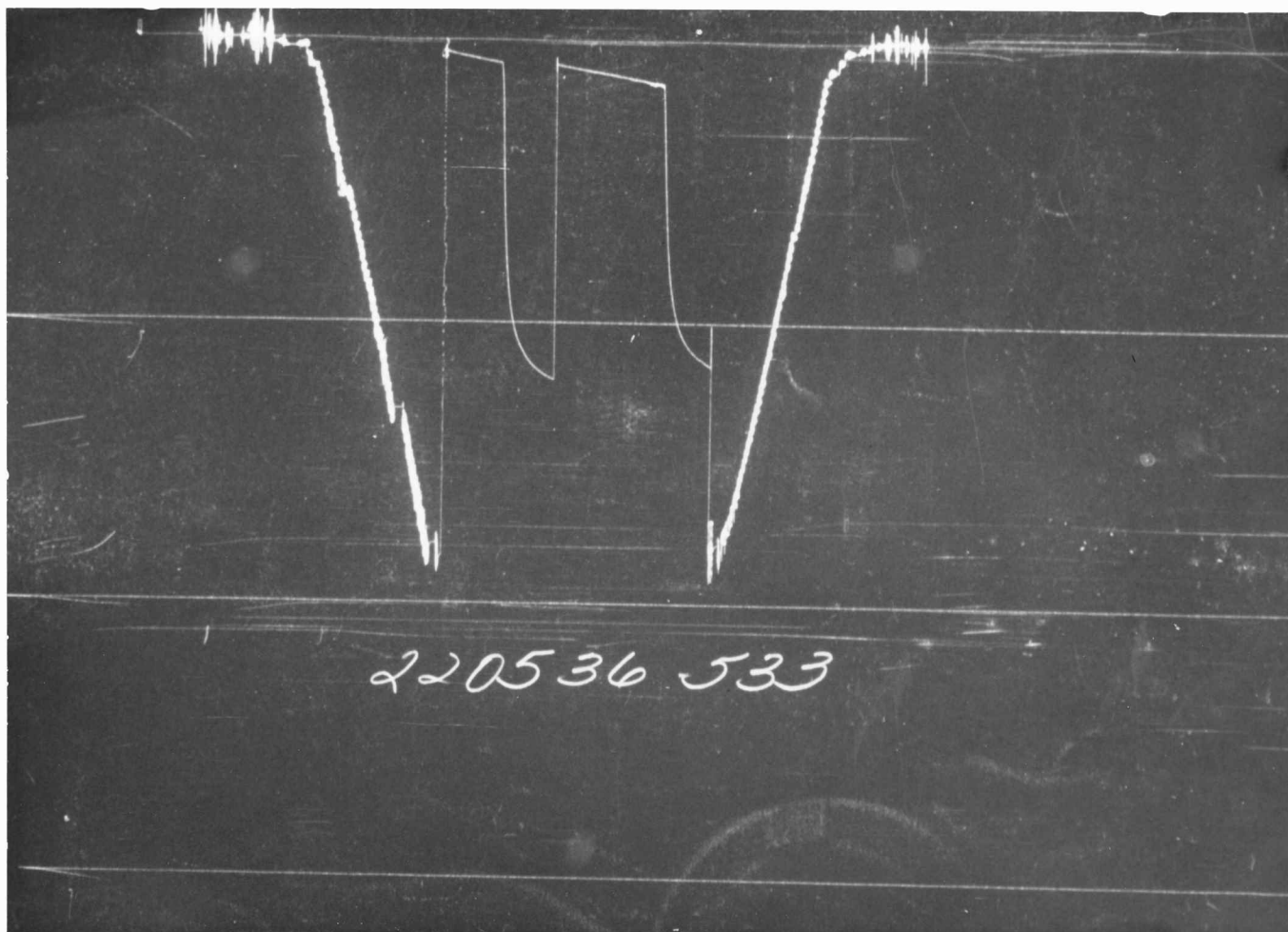
- OF_3 = Theoretical Open Flow Potential with/Damage Removed Max. . . . MCF/D
 OF_4 = Theoretical Open Flow Potential with/Damage Removed Min. . . . MCF/D
 P_s = Extrapolated Static Pressure Psig.
 P_F = Final Flow Pressure Psig.
 P_{or} = Potentiometric Surface (Fresh Water *) Feet
 Q = Average Adjusted Production Rate During Test bbls/day
 Q_1 = 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.

PRESSURE



TIME



Each Horizontal Line Equals 1000 p.s.i.



	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve		NONE		
Drill Pipe	4"	3.340"	2274'	
Drill Collars	4" FH WP	2.25"	1050'	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3336'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	4'	3340'
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3345'
Flush Joint Anchor				
Pressure Equalizing Tube				
AP				
Blanked-Off B.T. Running Case	5"	3.06"	4'	3346'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.76"	38'	
Blanked-Off B.T. Running Case w/ TEMP.	5"	-	5'	3388'

TEMPERATURE RECORDER CHART

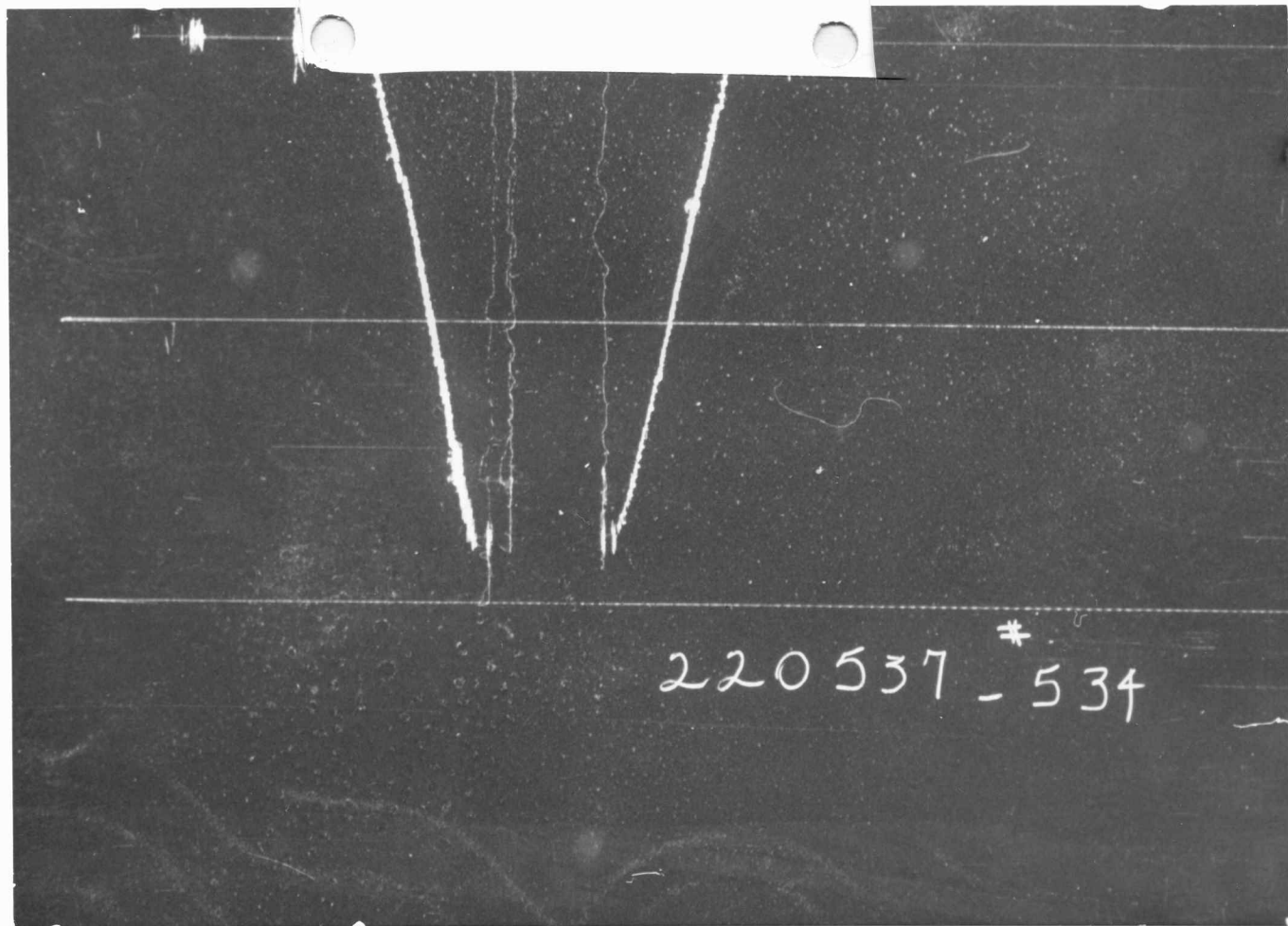


10° each circle

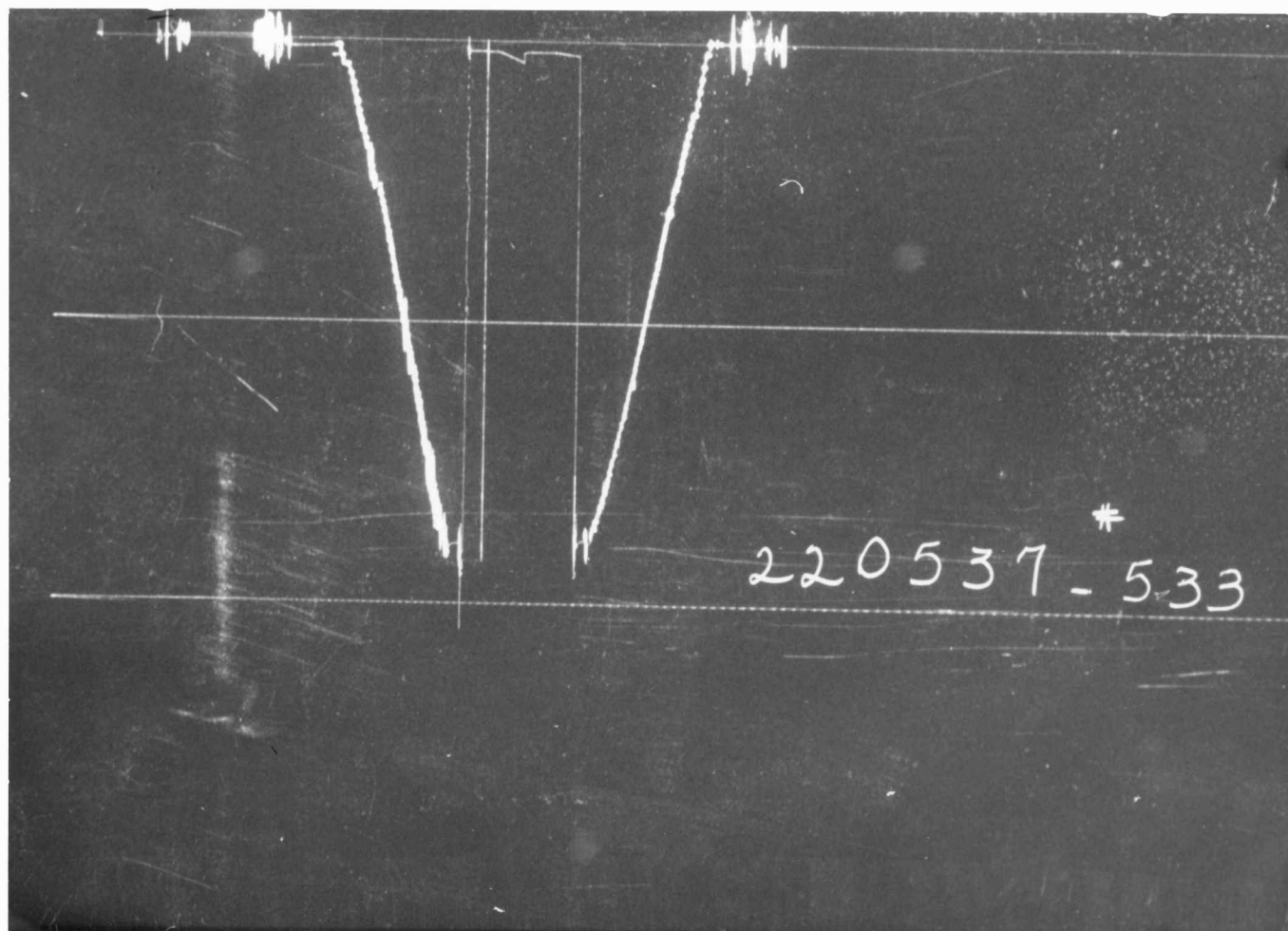
	Damage Removed Max.	MCF/D
OF_4	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
P_F	= Final Flow Pressure	Psig.
P_{ot}	= Potentiometric Surface (Fresh Water *)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q_1	= Theoretical Production 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.

PRESSURE



TIME



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

FLUID SAMPLER DATA				Date 6-13-70		Ticket Number 220538	
Sampler Pressure _____ P.S.I.G. at Surface Recovery: Cu. Ft. Gas _____ cc. Oil _____ cc. Water _____ cc. Mud _____ Tot. Liquid cc. _____ Gravity _____ ° API @ _____ ° F. Gas/Oil Ratio _____ cu. ft./bbl.				Kind of Job OPEN HOLE		Halliburton District HAYS	
				Tester H. JOSLIN		Witness O. HOWELL	
				Drilling Contractor ASPEN DRILLING COMPANY SM S			
EQUIPMENT & HOLE DATA							
				Formation Tested Lower Kansas City			
				Elevation 2097' Ft.			
				Net Productive Interval - Ft.			
				All Depths Measured From Kelly bushing			
				Total Depth 3525' Ft.			
				Main Hole/Casing Size 7 7/8"			
				Drill Collar Length 1050' I.D. 2.25"			
				Drill Pipe Length 2369' I.D. 3.340"			
				Packer Depth(s) 3435-3440' Ft.			
				Depth Tester Valve 3431' Ft.			
TYPE		AMOUNT		Depth Back		Surface	
Cushion				Ft. Pres. Valve		Choke	
						1/4" Bottom Choke 3/4"	
Recovered 150		Feet of		slightly oil cut mud			
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Remarks Tool opened with a weak steady blow throughout 30 minute first flow.							
Closed for 31 minute first closed in pressure. Tool reopened with a weak							
steady blow throughout 58 minute second flow. Took 31 minute second closed							
in pressure.							
TEMPERATURE		Gauge No. 534		Gauge No. 533		Gauge No.	
		Depth: 3441 Ft.		Depth: 3521 Ft.		Depth: Ft.	
Est. 105 °F.		12 Hour Clock		12 Hour Clock		Hour Clock	
Blanked Off no		Blanked Off yes		Blanked Off			
3520'							
Actual 107 °F.		Pressures		Pressures		Pressures	
		Field		Office		Field	
						Office	
Initial Hydrostatic		-		1830		1864 1876	
First Period	Flow Initial	-		19		48 61	
	Flow Final	-		57		95 100	
	Closed in	-		1069		1112 1112	
Second Period	Flow Initial	-		69		95 110	
	Flow Final	-		110		149 150	
	Closed in	-		980		1017 1025	
Third Period	Flow Initial						
	Flow Final						
	Closed in						
Final Hydrostatic		-		1827		1845 1870	

Legal Location
Sec. - Twp. - Rng.

12 9 20

Field Area
WILDCAT

County
ROOKS

State
KANSAS

Lease Name
LAMBERT

Well No.
1

Test No.
4

Tested Interval
3440-3525'

Lease Owner/Company Name
HINKLE OIL COMPANY

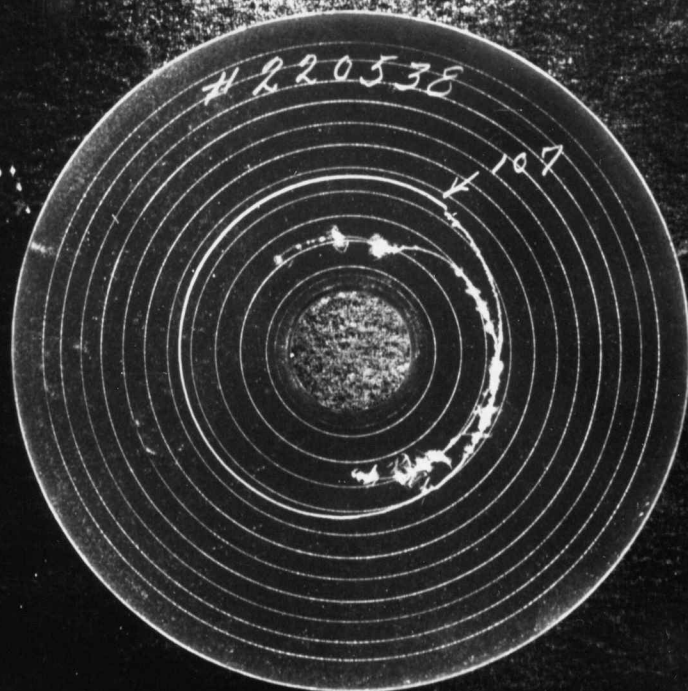
Lease Owner/Company Name

Gauge No.			534		Depth		3441'		Clock No.		3227		12 hour		Ticket No.		220538	
First Flow Period			First Closed In Pressure			Second Flow Period			Second Closed In Pressure			Third Flow Period			Third Closed In Pressure			
Time Defl. .000"	PSIG Temp. Corr.		Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	
0	.000	19	.000		57	.000		69	.000		110	.000						
1	.0322	27	.0208		112	.0678		75	.0198		158	.0198						
2	.0644	35	.0416		275	.1356		83	.0396		248	.0396						
3	.0966	41	.0624		538	.2034		91	.0594		392	.0594						
4	.1288	46	.0832		780	.2712		98	.0792		557	.0792						
5	.1610	51	.1040		880	.3390		106	.0990		692	.0990						
6	.1930	57	.1248		950	.393**		110	.1188		783	.1188						
7			.1456		992				.1386		853	.1386						
8			.1664		1027				.1584		903	.1584						
9			.1872		1050				.1782		943	.1782						
10			.215*		1069				.205*		980	.205*						
11																		
12																		
13																		
14																		
15																		

Gauge No.			533		Depth		3521'		Clock No.		2414		12 hour				
Time Defl. .000"	PSIG Temp. Corr.		Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.
0	.000	61	.000		100	.000		110	.000		150	.000					
1	.0338	70	.0203		160	.0684		117	.0201		206	.0201					
2	.0676	78	.0406		337	.1368		125	.0402		304	.0402					
3	.1014	84	.0609		622	.2052		131	.0603		458	.0603					
4	.1352	90	.0812		811	.2736		138	.0804		620	.0804					
5	.1690	95	.1015		918	.3420		145	.1005		749	.1005					
6	.2030	100	.1218		985	.397**		150	.1206		843	.1206					
7			.1421		1033				.1407		906	.1407					
8			.1624		1067				.1608		954	.1608					
9			.1827		1091				.1809		989	.1809					
10			.210*		1112				.208*		1025	.208*					
11																	
12																	
13																	
14																	
15																	
Reading Interval			5	3	10				3								Minutes
REMARKS: *Last interval is equal to 4 minutes. **Last = 8 minutes.																	

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4"	3.340"	2369'	
Drill Collars	4" FH WP	2.25"	1050'	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3431'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	4'	3435'
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3440'
Flush Joint Anchor				
Pressure Equalizing Tube				
AP Blanked-Off B.T. Running Case	5"	3.06"	4'	3441'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars	1' 4" FH	3.24"	32'	
Flush Joint Anchor	5"	2.76"	44'	
Blanked-Off B.T. Running Case W/ Temp.	5"	-	5'	3521'

TEMPERATURE RECORDER CHART

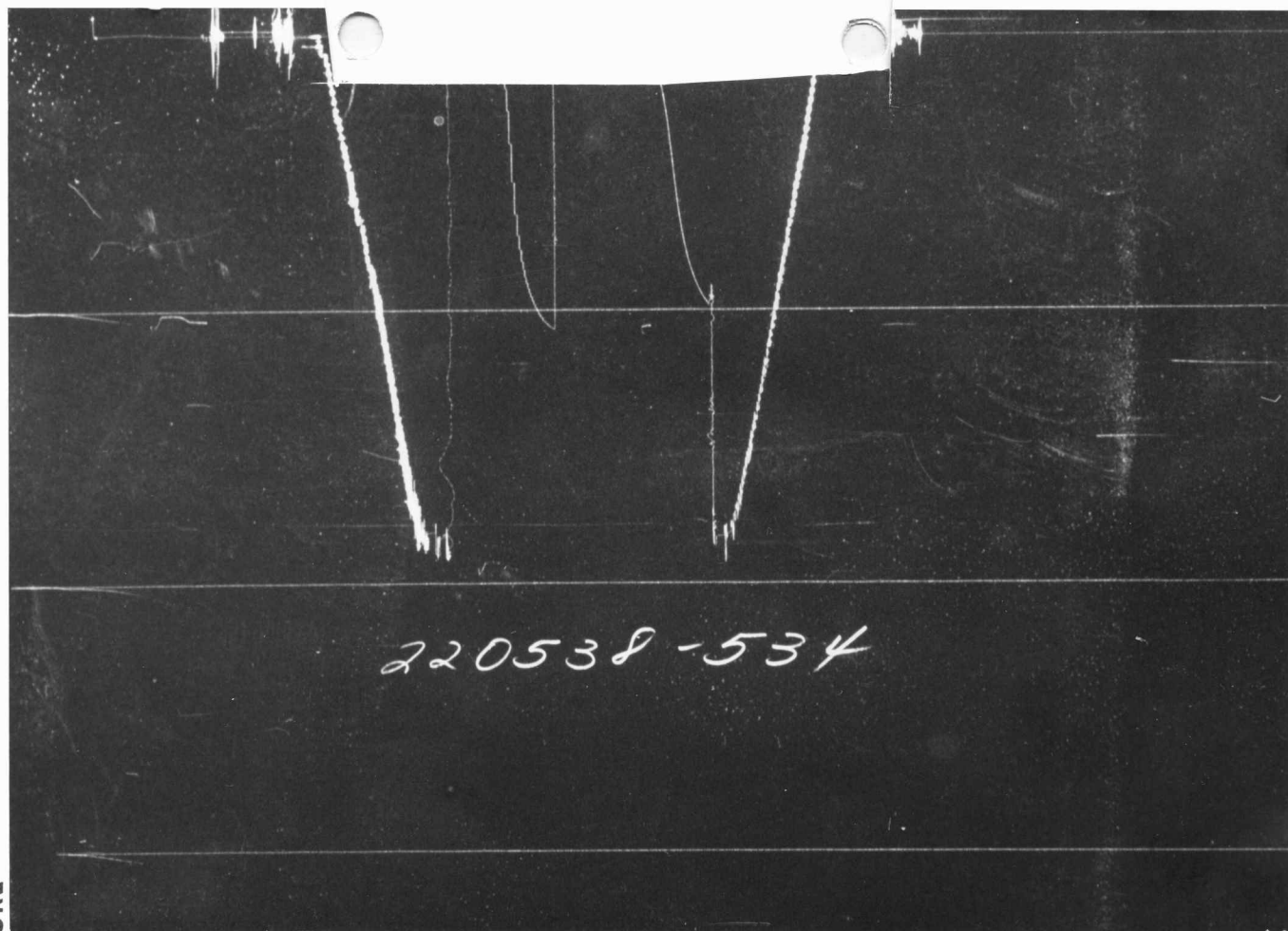


10° each circle

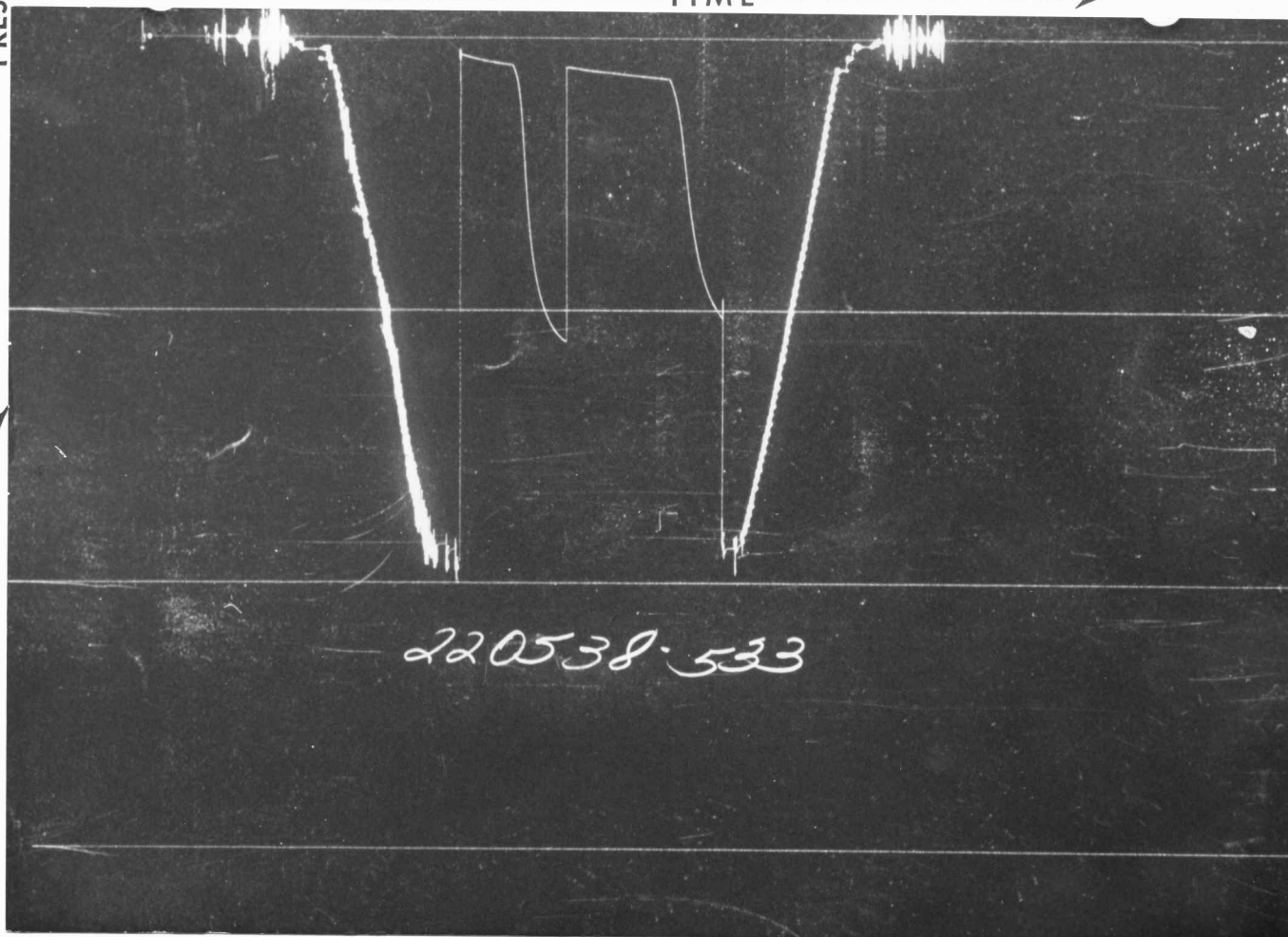
- OF_g = Theoretical Open Flow Potential with/Damage Removed Max. . . . MCF/D
- OF₄ = Theoretical Open Flow Potential with/Damage Removed Min. . . . MCF/D
- P_s = Extrapolated Static Pressure Psig.
- P_f = Final Flow Pressure Psig.
- P_{or} = Potentiometric Surface (Fresh Water *) Feet
- Q = Average 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.

PRESSURE



TIME



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

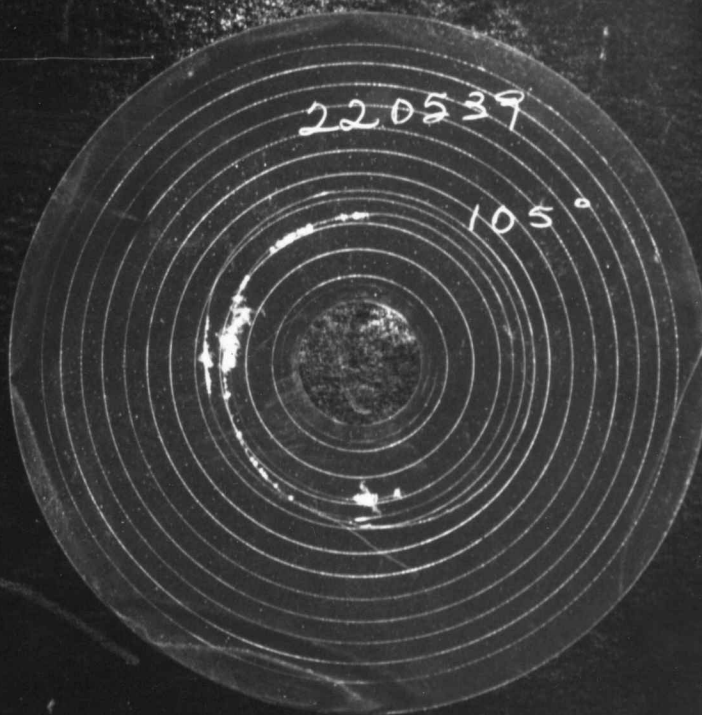
FLUID SAMPLER DATA				Date 6/14/70		Ticket Number 220539	
Sampler Pressure _____ P.S.I.G. at Surface Recovery: Cu. Ft. Gas _____ cc. Oil _____ cc. Water _____ cc. Mud _____ Tot. Liquid cc. _____ Gravity _____ ° API @ _____ ° F. Gas/Oil Ratio _____ cu. ft./bbl.				Kind of Job OPEN HOLE Halliburton District HAYS Tester H. JOSLIN Witness MR. O. HOWELL Drilling Contractor ASPEN DRILLING COMPANY RIG # 3			
				EQUIPMENT & HOLE DATA LC S			
				Formation Tested Arbuckle			
				Elevation 2097' _____ Ft.			
				Net Productive Interval - _____ Ft.			
				All Depths Measured From Kelly Bushing			
				Total Depth 3590' _____ Ft.			
				Main Hole/Casing Size 7 7/8"			
				XXX-XXX Length 4" FH W. Pipe 1050' D. 2.25" Drill Pipe Length 2487' _____ I.D. 3.34"			
				Packer Depth(s) 3553' - 3558' _____ Ft.			
				Depth Tester Valve 3549' _____ Ft.			
TYPE		AMOUNT		Depth Back		Surface	
Cushion		None		Ft. Pres. Valve		None	
						Choke 1/4"	
						Bottom Choke 3/4"	
Recovered		10		Feet of		mud.	
Recovered				Feet of			
Recovered				Feet of			
Recovered				Feet of			
Recovered				Feet of			
Remarks Opened tool 3:00 with weak steady blow throughout. Closed 3:30 for closed in pressure. Reopened tool 4:00 with no blow - flush anchor 4:05 with weak blow for 1 minute. Closed 4:30 for final closed in pressure. Off bottom 5:00. Shut down for storm 11:30 - 2:30 while going in hole with tool.							
TEMPERATURE		Gauge No. 534		Gauge No. 533		Gauge No.	
		Depth: 3559 Ft.		Depth: 3586 Ft.		Depth: _____ Ft.	
		12 Hour Clock		12 Hour Clock		Hour Clock	
Est. 106 °F.		Blanked Off No		Blanked Off Yes		Blanked Off	
3585 @						Tool 3:00 A.M.	
Actual 105 °F.						Opened XXX	
		Pressures		Pressures		Tool 5:00 A.M.	
						Closed XXX	
		Field	Office	Field	Office	Field	Office
Initial Hydrostatic		-	1916	1979	1932		
						Reported	Computed
						Minutes	Minutes
First Period	Flow Initial	-	17	19	30		
	Flow Final	-	17	29	30	30	
	Closed in	-	38	57	49	30	
Second Period	Flow Initial	-	20	29	33		
	Flow Final	-	20	38	40	30	
	Closed in	-	40	53	51	30	
Third Period	Flow Initial						
	Flow Final						
	Closed in						
Final Hydrostatic		-	1899	1902	1915		

Legal Location Sec. - Twp. - Rng. 12 9 20
 Lease Name LAMBERT
 Well No. 1
 Test No. 5
 Field Area WILDCAT
 County ROOKS
 State KANSAS
 Tested Interval 3558' - 3590'
 Lease Owner/Company Name HINKLE OIL COMPANY



	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4"	3.34"	2487'	
Drill Collars Weight Pipe	4" FH	2.25"	126'	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3549'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	4'	3553'
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3558'
Flush Joint Anchor				
Pressure Equalizing Tube				
A. P.				
Blanked-Off B.T. Running Case	5"	3.06"	4'	3559'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.76"	23'	
Blanked-Off B.T. Running Case with Temp. 5"			5'	3586'

TEMPERATURE RECORDER CHART



10° each circle

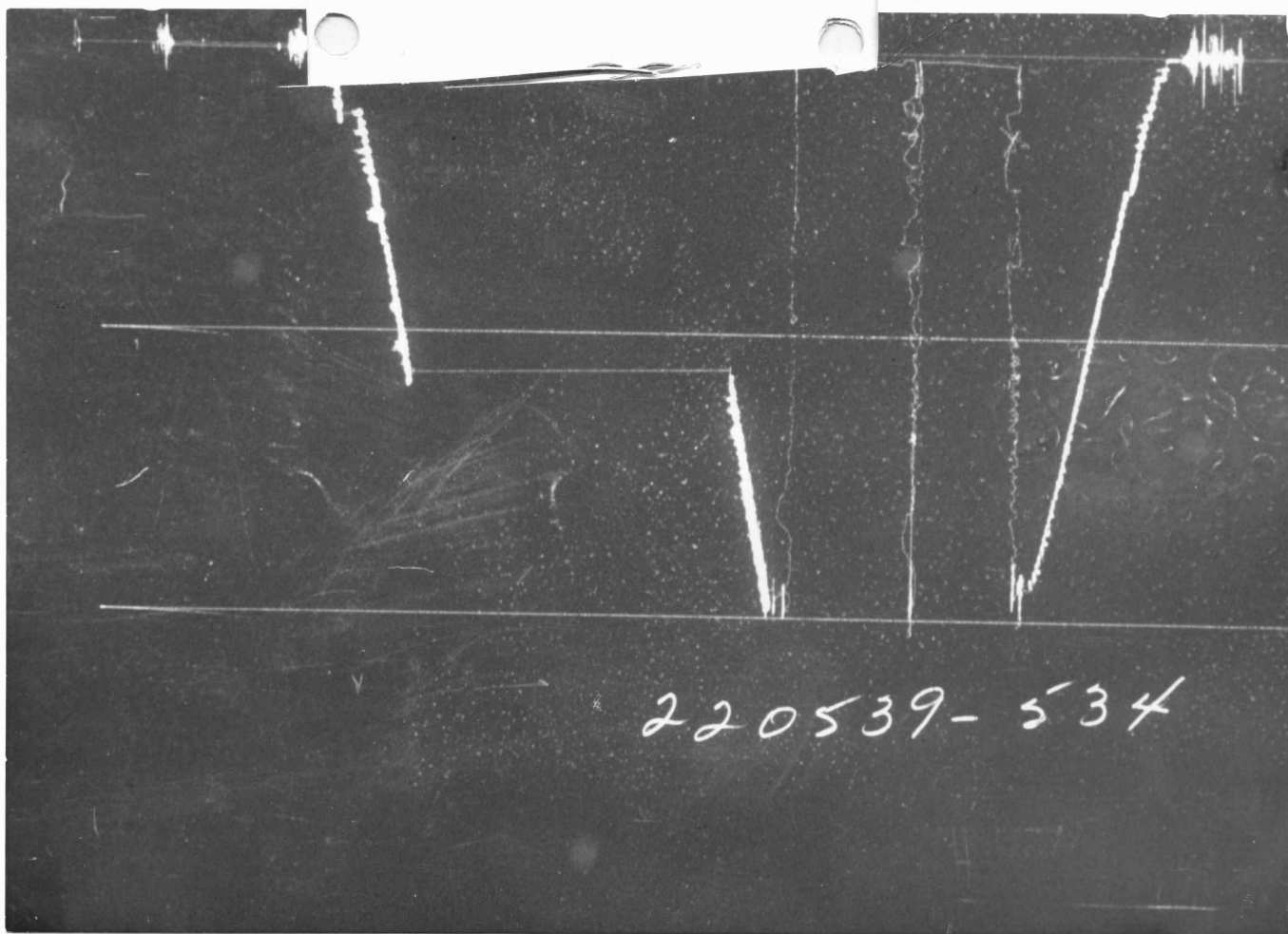
	Open Flow Potential with/Damage Removed Max.	MCF/D
OF_4	Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	Extrapolated Static Pressure	Psig.
P_F	Final Flow Pressure	Psig.
P_{ot}	Potentiometric Surface (Fresh Water*)	Feet
Q	Average Adjusted Production Rate During Test	bbls/day
Q_1	Theoretical 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.

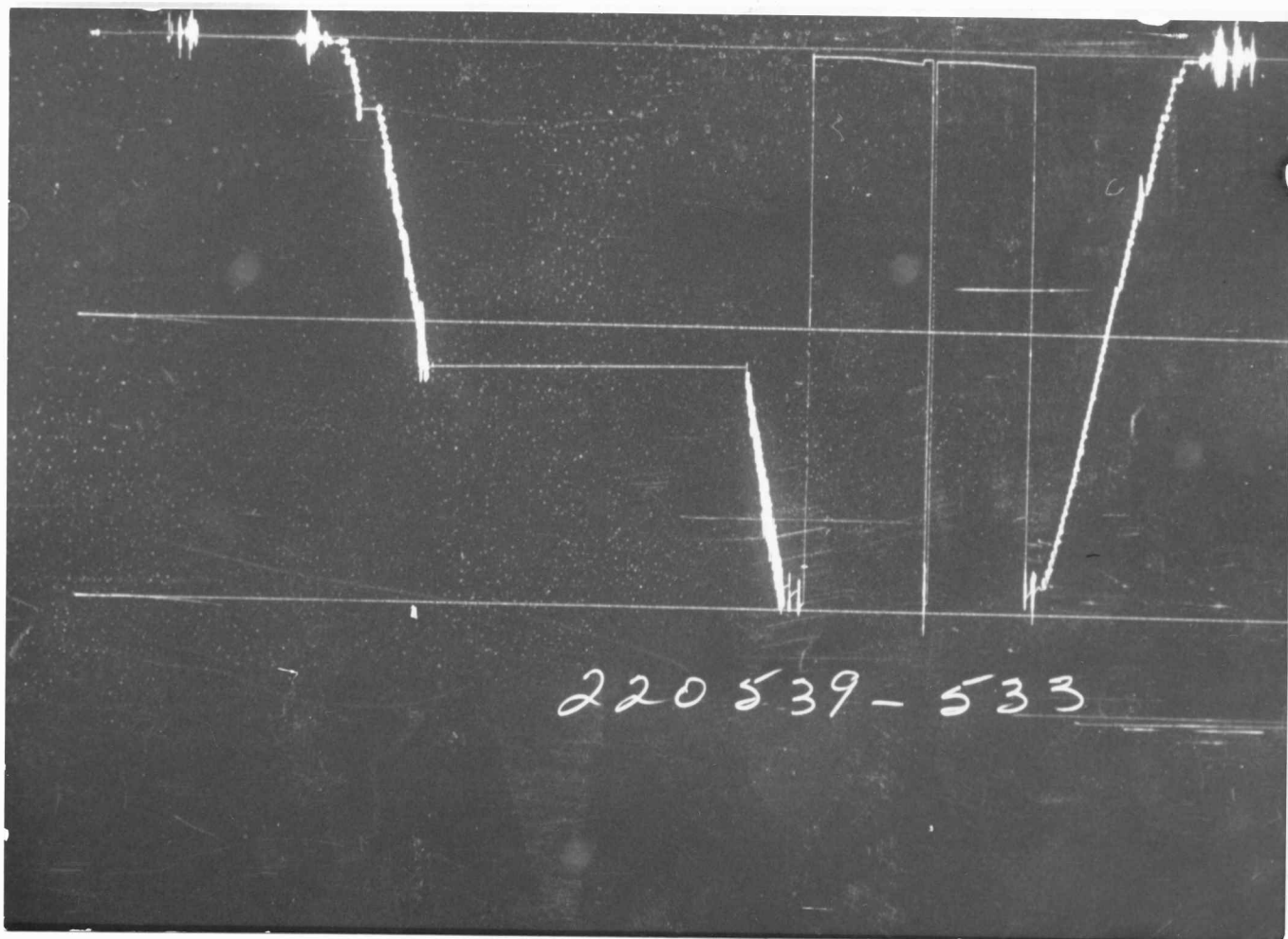
PRESSURE



TIME



220539-534



220539-533

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

LAMBERT

Lease Name

1

6

3590-3605'

HINKLE OIL COMPANY

Lease Owner/Company Name

Legal Location
Sec. - Twp. - Rng.

12 9 20

Field

WILDCAT

County

ROOKS

State

KANSAS

FLUID SAMPLER DATA				Date 6-14-70		Ticket Number 220540	
Sampler Pressure _____ P.S.I.G. at Surface Recovery: Cu. Ft. Gas _____ cc. Oil _____ cc. Water _____ cc. Mud _____ Tot. Liquid cc. _____ Gravity _____ ° API @ _____ °F. Gas/Oil Ratio _____ cu. ft./bbl.				Kind of Job OPEN HOLE		Halliburton District HAYS	
				Tester H. JOSLIN		Witness O. HOWELL	
				Drilling Contractor ASPEN DRILLING COMPANY RIG # 3		sm	
EQUIPMENT & HOLE DATA							
				Formation Tested Arbuckle			
				Elevation 2097'		Ft.	
				Net Productive Interval -		Ft.	
				All Depths Measured From Kelly bushing			
				Total Depth 3605'		Ft.	
				Main Hole/Casing Size 7 7/8"			
				Drill Collar Length 4" FHWP 1050'		I.D. 2.25"	
				Drill Pipe Length 2519'		I.D. 3.340"	
				Packer Depth(s) 3585-3590'		Ft.	
				Depth Tester Valve 3581'		Ft.	
TYPE		AMOUNT		Depth Back		Surface	
Cushion				Ft. Pres. Valve		Choke	
Recovered 10		Feet of mud				1/4" Bottom Choke 3/4"	
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Remarks Tool opened with a weak blow for 15 minutes of a 20 minute first flow.							
Closed for 20 minute first closed in pressure. Tool reopened with no							
blow. Closed for 20 minute first closed in pressure.							
TEMPERATURE		Gauge No. 534		Gauge No. 533		Gauge No.	
Depth: 3591 Ft.		Depth: 3601 Ft.		Depth: Ft.		TIME	
Est. 106 °F.		12 Hour Clock		12 Hour Clock		Hour Clock	
Blanked Off no		Blanked Off yes		Blanked Off		Tool = A.M.	
3600						Opened 8:40 P.M.	
Actual 103 °F.		Pressures		Pressures		Tool = A.M.	
		Pressures		Pressures		Closed 10:00 P.M.	
		Field Office		Field Office		Reported Computed	
		Minutes Minutes		Minutes Minutes			
Initial Hydrostatic -		1933 1941 1935					
First Period Flow Initial -		19 20					
Final -		21 21				20	
Closed in -		45 45				20	
Second Period Flow Initial -		29 30					
Final -		23 24				20	
Closed in -		32 32				20	
Third Period Flow Initial -							
Final -							
Closed in -							
Final Hydrostatic -		1915 1921 1919					

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4"	3.340"	2519'	
Drill Collars	4" FH WP	2.25"	1050'	
Handling Sub & Choke Assembly	5"	.87"	5'	
Dual CIP Valve				
Dual CIP Sampler	5"	.75"	5'	3581'
Hydro-Spring Tester				
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	4'	3585'
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3590'
Flush Joint Anchor				
Pressure Equalizing Tube				
AP Blanked-Off B.T. Running Case	5"	3.06"	4'	3591'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.76"	6'	
Blanked-Off B.T. Running Case W/Temp.	5"		5'	3601'

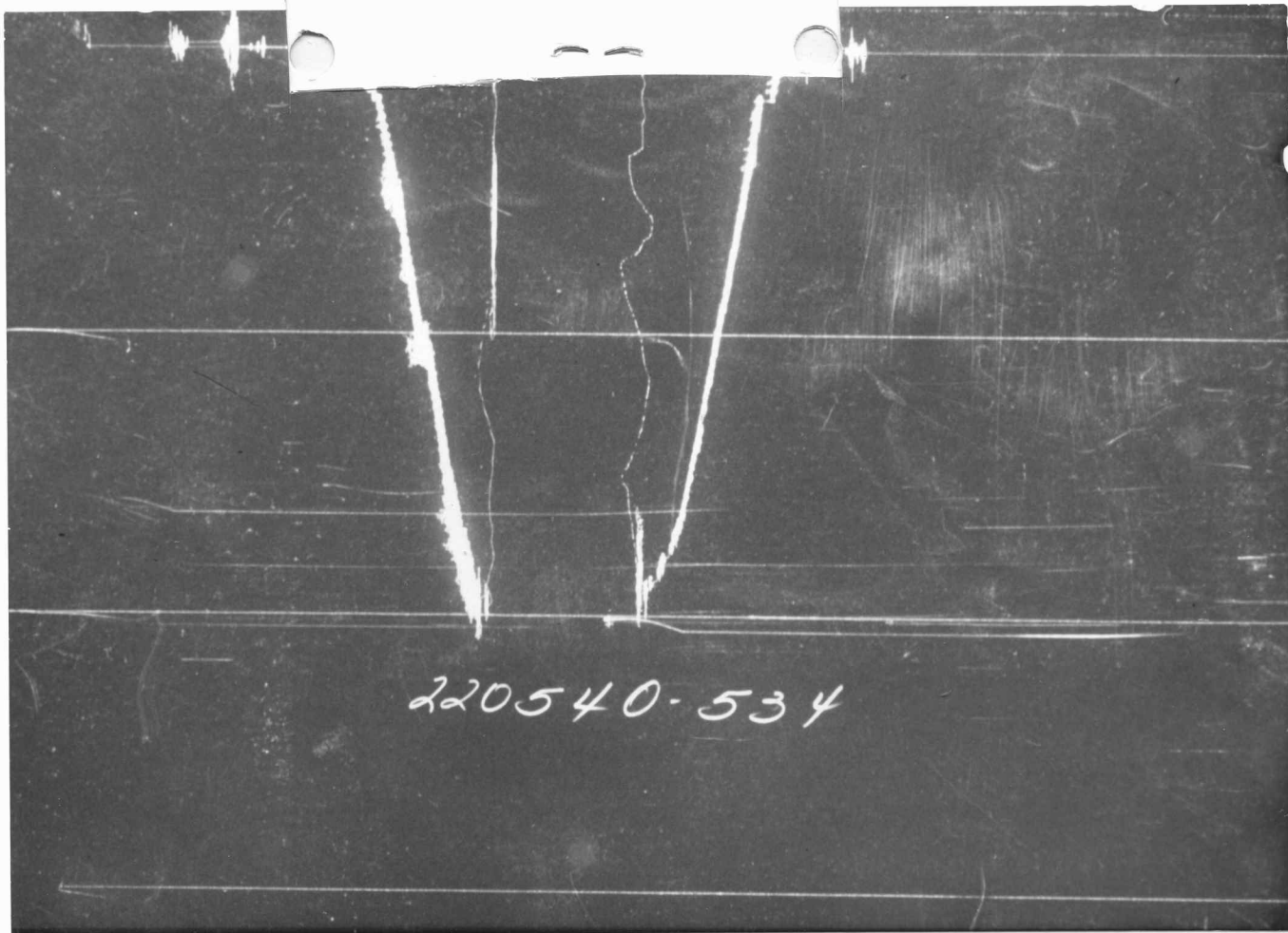
TEMPERATURE RECORDER CHART



10° each circle

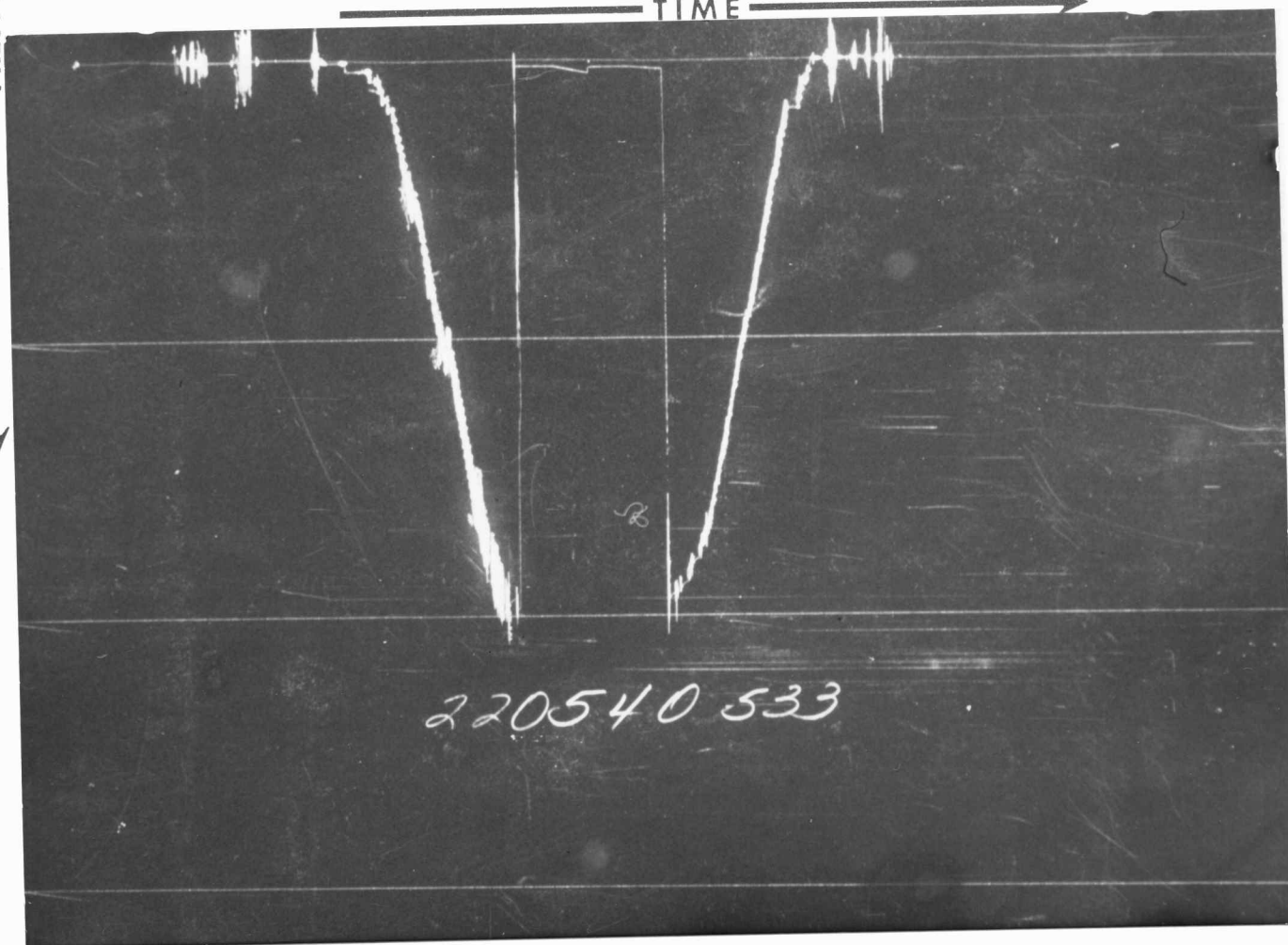
- OF_3 = Theoretical Open Flow Potential with/Damage Removed Max. . . . MCF/D
 OF_4 = Theoretical Open Flow Potential with/Damage Removed Min. . . . MCF/D
 P_s = Extrapolated Static Pressure Psig.
 P_F = Final Flow Pressure Psig.
 P_{ot} = Potentiometric Surface (Fresh Water *) Feet
 Q = Average Adjusted Production Rate During Test bbls/day
 Q_1 = 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.



PRESSURE

TIME



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

FLUID SAMPLER DATA				Date 6/15/70		Ticket Number 220541	
Sampler Pressure _____ P.S.I.G. at Surface Recovery: Cu. Ft. Gas _____ cc. Oil _____ cc. Water _____ cc. Mud _____ Tot. Liquid cc. _____				Kind of Job OPEN HOLE		Halliburton District HAYS	
				Tester H. JOSLIN		Witness O. HOWELL	
				Drilling Contractor ASPEN DRILLING COMPANY RIG #3			
				EQUIPMENT & HOLE DATA LC S			
				Formation Tested Arbuckle			
				Elevation 2097' Ft.			
				Net Productive Interval - Ft.			
				All Depths Measured From Kelly Bushing			
				Total Depth 3647' Ft.			
				Main Hole/Casing Size 7 7/8"			
				Drill Collar Length 4"FH W.P. 1050' I.D. 2.25"			
				Drill Pipe Length 2524' I.D. 3.24"			
				Packer Depth(s) 3600' - 3605' Ft.			
				Depth Tester Valve 3596' Ft.			
		RESISTIVITY	CHLORIDE CONTENT				
Recovery Water	_____ @ _____ °F.	_____ ppm					
Recovery Mud	_____ @ _____ °F.						
Recovery Mud Filtrate	_____ @ _____ °F.	_____ ppm					
Mud Pit Sample	_____ @ _____ °F.						
Mud Pit Sample Filtrate	_____ @ _____ °F.	_____ ppm					
Mud Weight	9.7 vis	42 cp					
Cushion		TYPE	AMOUNT	Depth Back Pres. Valve	Surface Choke	Bottom Choke	
			None	None	1/4"	3/4"	
Recovered	1020	Feet of	muddy salt water.				
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Remarks Opened tool for a 30 minute first flow. Closed tool for a 31 minute first closed in pressure. Reopened tool for a 60 minute second flow. Closed tool for a 29 minute second closed in pressure.							
TEMPERATURE		Gauge No. 534	Gauge No. 533	Gauge No.	TIME		
		Depth: 3606 Ft.	Depth: 3643 Ft.	Depth:			
		12 Hour Clock	12 Hour Clock	Hour Clock			
Est. 106 °F.		Blanked Off NO	Blanked Off YES	Blanked Off	Tool XXXX Opened 1230 P.M.		
3842' @					Tool XXXX Closed 1600 P.M.		
Actual 109 °F.		Pressures	Pressures	Pressures			
	Field	Office	Field	Office	Field	Office	Reported Minutes
Initial Hydrostatic	-	1924	1998	1948			Computed Minutes
First Period Flow	Initial	-	48	52			
	Final	-	236	254			
	Closed in	-	1057	1077			
Second Period Flow	Initial	-	249	268			
	Final	-	501	521			
	Closed in	-	1023	1044			
Third Period Flow	Initial						
	Final						
	Closed in						
Final Hydrostatic	-	1895	1931	1918			

LAMBERT
 Lease Name
 12 9 20
 Well No. **1**
 Test No. **7**
 Field Area **WILDCAT**
 County **ROOKS**
 State **KANSAS**
 3605' - 3647'
 Tested Interval
 HINKLE OIL COMPANY
 Lease Owner/Company Name

Gauge No. 534		Depth 3606'		Clock No. 3227		12 hour		Ticket No. 220541	
First Flow Period		First Closed In Pressure		Second Flow Period		Second Closed In Pressure		Third Flow Period	
Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.
0 .000	48	.000		.000	249	.000			501
1 .0372	94	.0211		.0655	310	.0203			865
2 .0744	132	.0422		.1310	361	.0406			924
3 .1116	168	.0633		.1965	407	.0608			957
4 .1488	204	.0844		.2620	448	.0811			976
5 .1860	236	.1055		.3275	485	.1014			990
6		.1266		.3930	501	.1217			1000
7		.1477				.1419			1008
8		.1688				.1622			1014
9		.1899				.1825			1020
10		.2180				.1960			1023**
11									
12									
13									
14									
15									

Gauge No. 533		Depth 3643'		Clock No. 2414		1 hour	
Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.
0 .080	52	.000		.000	268		521
1 .0398	105	.0204		.0667	326		868
2 .0796	146	.0408		.1334	376		938
3 .1194	184	.0613		.2001	425		973
4 .1592	221	.0817		.2668	468		995
5 .1990	254	.1021		.3335	505		1010
6		.1225		.4000	521		1020
7		.1429					1028
8		.1634					1035
9		.1838					1041
10		.2110					1044**
11							
12							
13							
14							
15							
Reading Interval 6		3		10		3	



	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Weight Pipe FH	4"	2.25"	126'	
Drill Pipe		3.24"	2524'	
Drill Collars				
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3596'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	4'	3600'
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3605'
Flush Joint Anchor				
Pressure Equalizing Tube				
A.P.				
Blanked-Off B.T. Running Case	5"	3.06"	4'	3606'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.76"	33'	
Blanked-Off B.T. Running Case with Temp. 5"			5'	3643'

TEMPERATURE RECORDER CHART

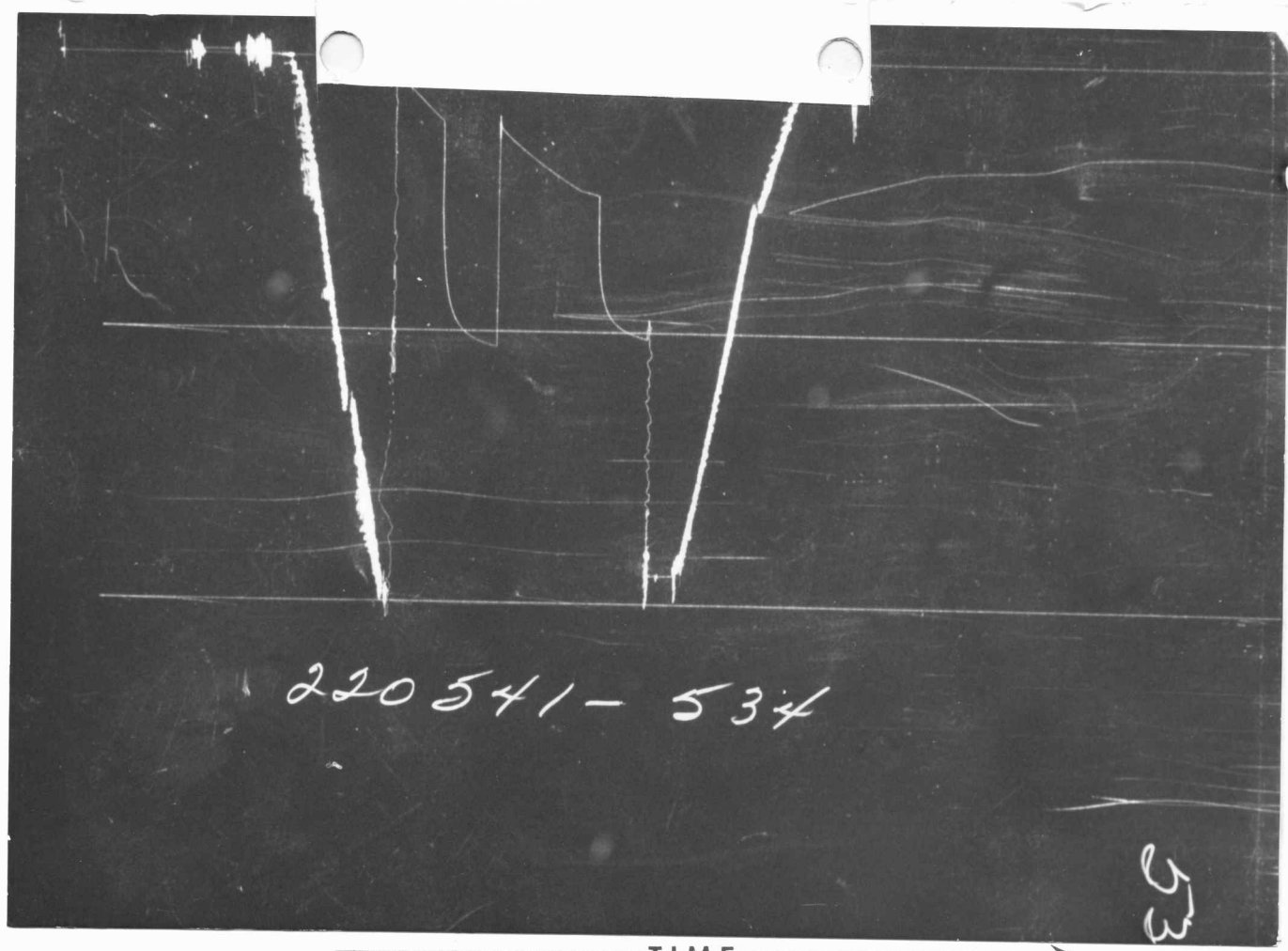


10° each circle

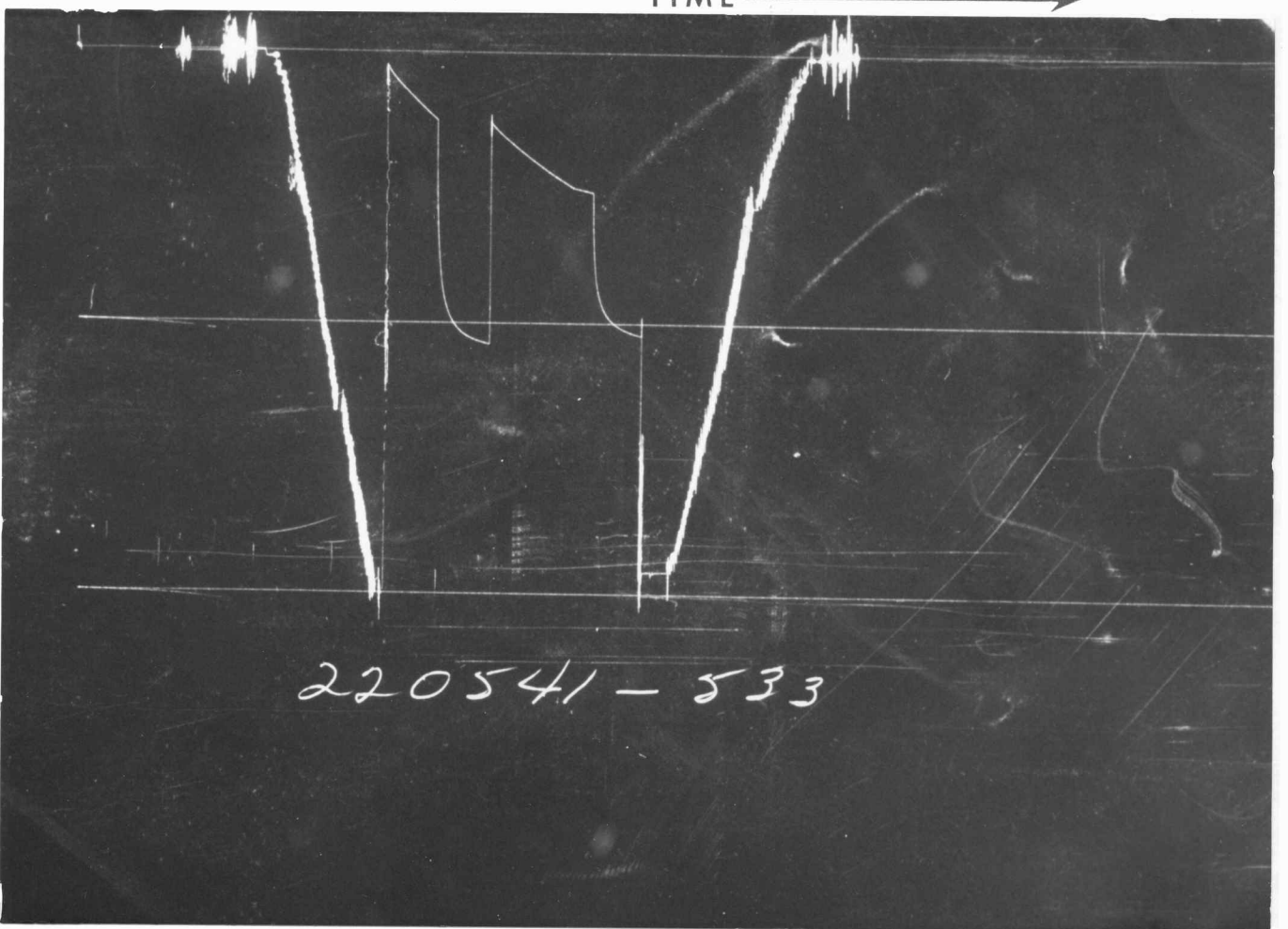
OF_3	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF_4	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
P_f	= Final Flow Pressure	Psig.
P_{or}	= Potentiometric Surface (Fresh Water *)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q_1	= 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.

PRESSURE



TIME



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