



	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Reversing Sub	5.75"	2.75"	7'	4189'
Water Cushion Valve				
Drill Pipe	4.5"	3.826"	4251'	
Drill Collars				
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	6'	4252'
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	4262'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	3.06"	4'	4263'
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6.75"	1.53"	6'	4271'
Distributor				
Packer Assembly	6.75"	1.53"	6'	4277'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars & change overs	6"	2.25"	59'	
Flush Joint Anchor	5"	3.84"	7'	
Temp case	5"	3"	1.5'	4345'
Blanked-Off B.T. Running Case	5"	2.39"	4'	4346'
Total Depth				4350'

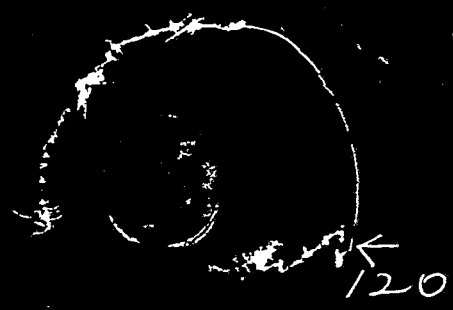
5

TEMPERATURE

RECORDER

CHART

H 524494

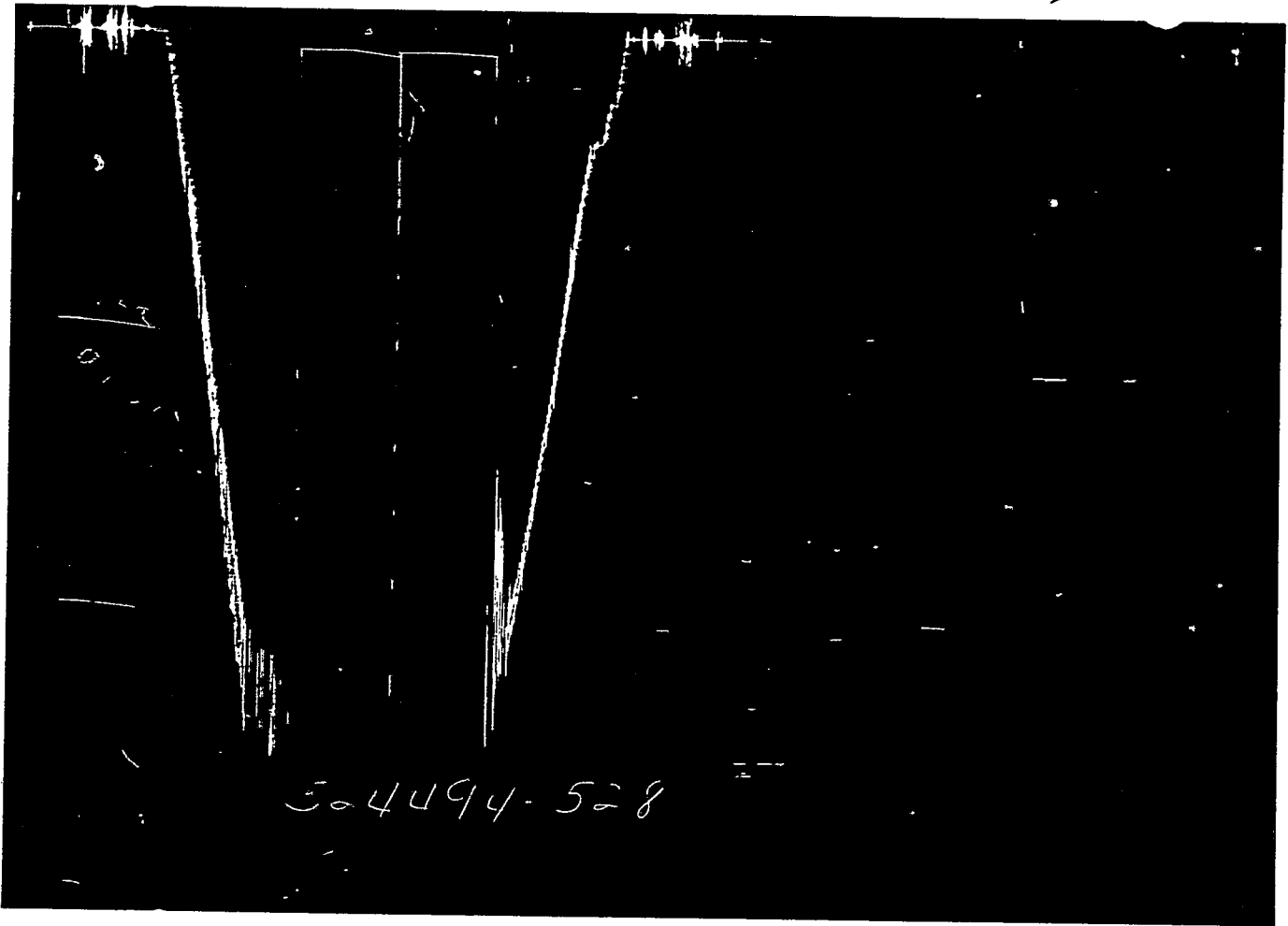
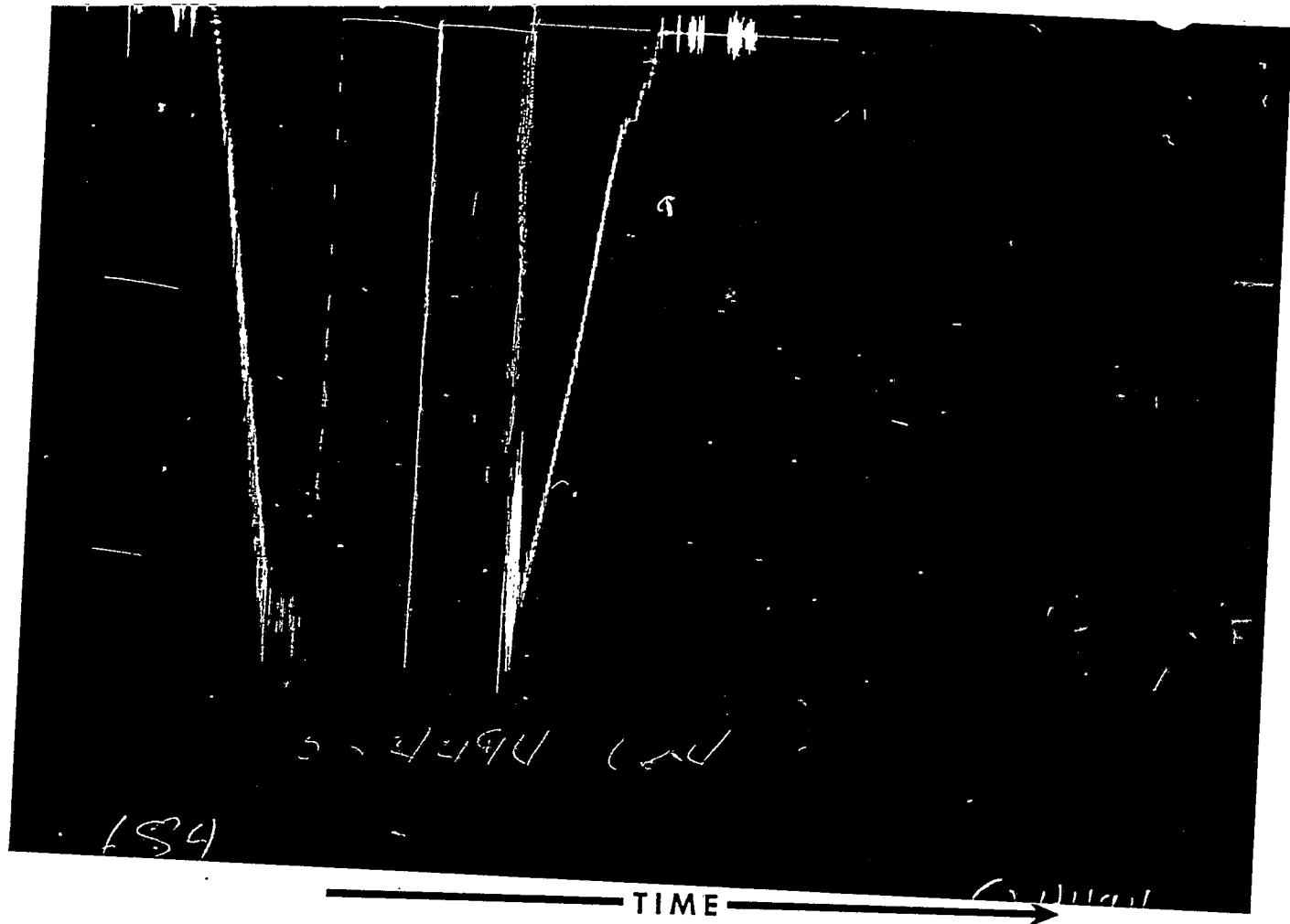


10° each circle

- 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.

215



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

Gauge No. 684			Depth 4417'				Clock No. 13853			12 hour	Ticket No. 524495				
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"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.
0	.0000	19.3	.0000		19.3	.0000	26.4	.0000		21.1					
1	.1990	19.3	.0204		27.2	.2030	21.1	.1970		514.0					
2			.0408		43.1										
3			.0612		75.7										
4			.0816		155.8										
5			.1020		298.4										
6			.1224		460.3										
7			.1428		597.2										
8			.1632		714.5										
9			.1836		811.7										
10			.2040		881.8										
11															
12															
13															
14															
15															

Gauge No. 528			Depth 4461'				Clock No. 4205			12 hour					
	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.
0	.0000	43.8	.0000		41.3	.0000	48.1	.0000		43.0					
1	.1980	41.3	.0202		49.9	.2020	43.0	.1950		533.4					
2			.0404		65.4										
3			.0606		98.9										
4			.0808		175.5										
5			.1010		313.2										
6			.1212		473.3										
7			.1414		612.3										
8			.1616		732.4										
9			.1818		829.3										
10			.2020		900.4										
11															
12															
13															
14															
15															
Reading Interval			3									Minutes			

REMARKS:



	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Reversing Sub	5.75"	2.75"	1'	
Water Cushion Valve				4331'
Drill Pipe	4.5"	3.826"	4393'	
Drill Collars				
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	6'	4394'
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	4404'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6.75"	1.53"	6'	4409'
Distributor				
Packer Assembly	6.75"	1.53"	6'	4415'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off ^{AP} B.T. Running Case	5"	3.00"	4'	4417'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	3.84"	39'	
HT 500	5"	3"	1.5'	4460'
Blanked-Off B.T. Running Case	5"	2.39"	4'	4461'
Total Depth				4465'

100
100
100

↑ PRESSURE ↓

← TIME →

524495-684

↑ PRESSURE ↓

524495-521

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

TEMPERATURE RECORDER CHART



10° each circle

- 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.

TEMPERATURE RECORDER CHART

#524495

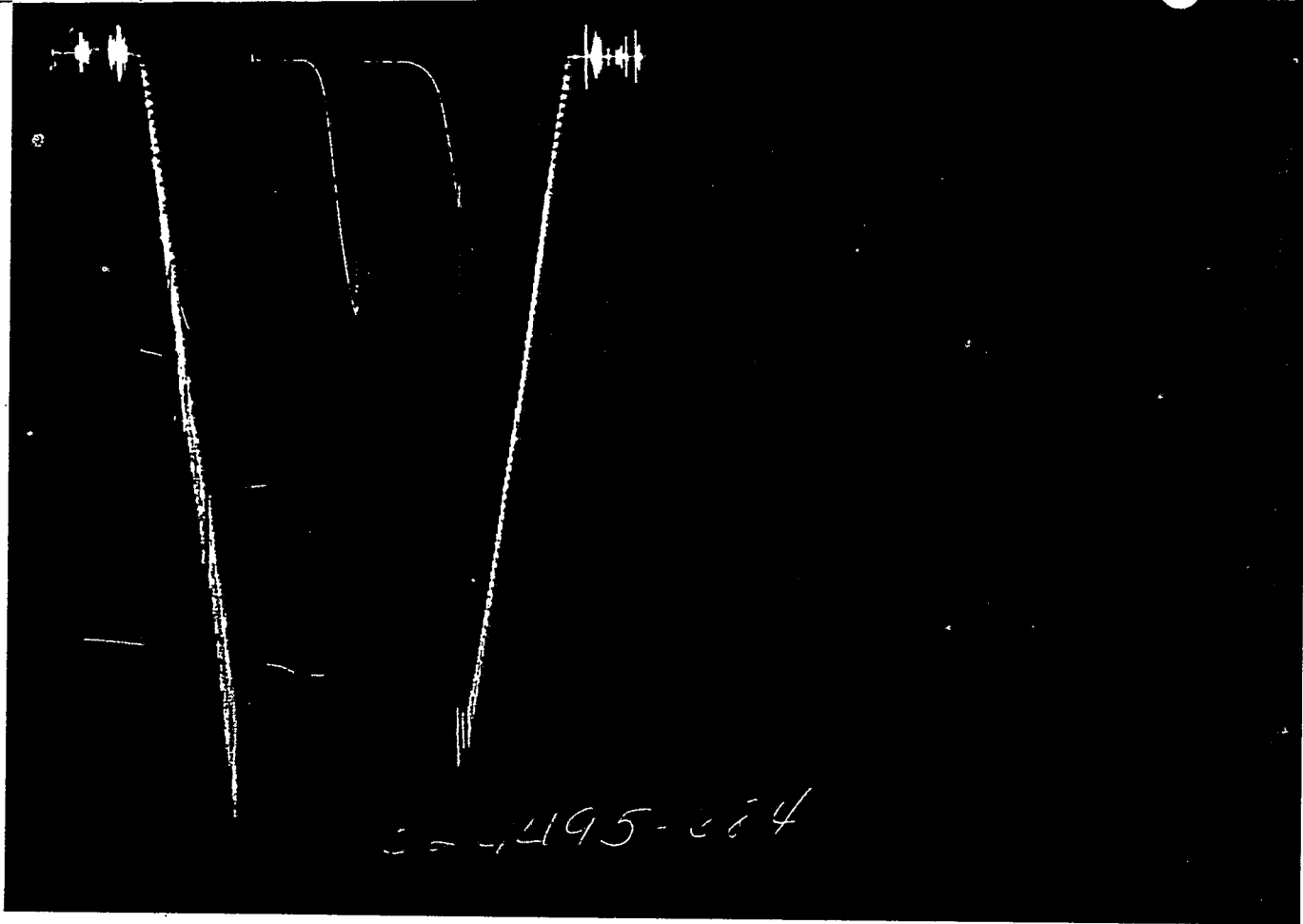


10° each circle

- 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

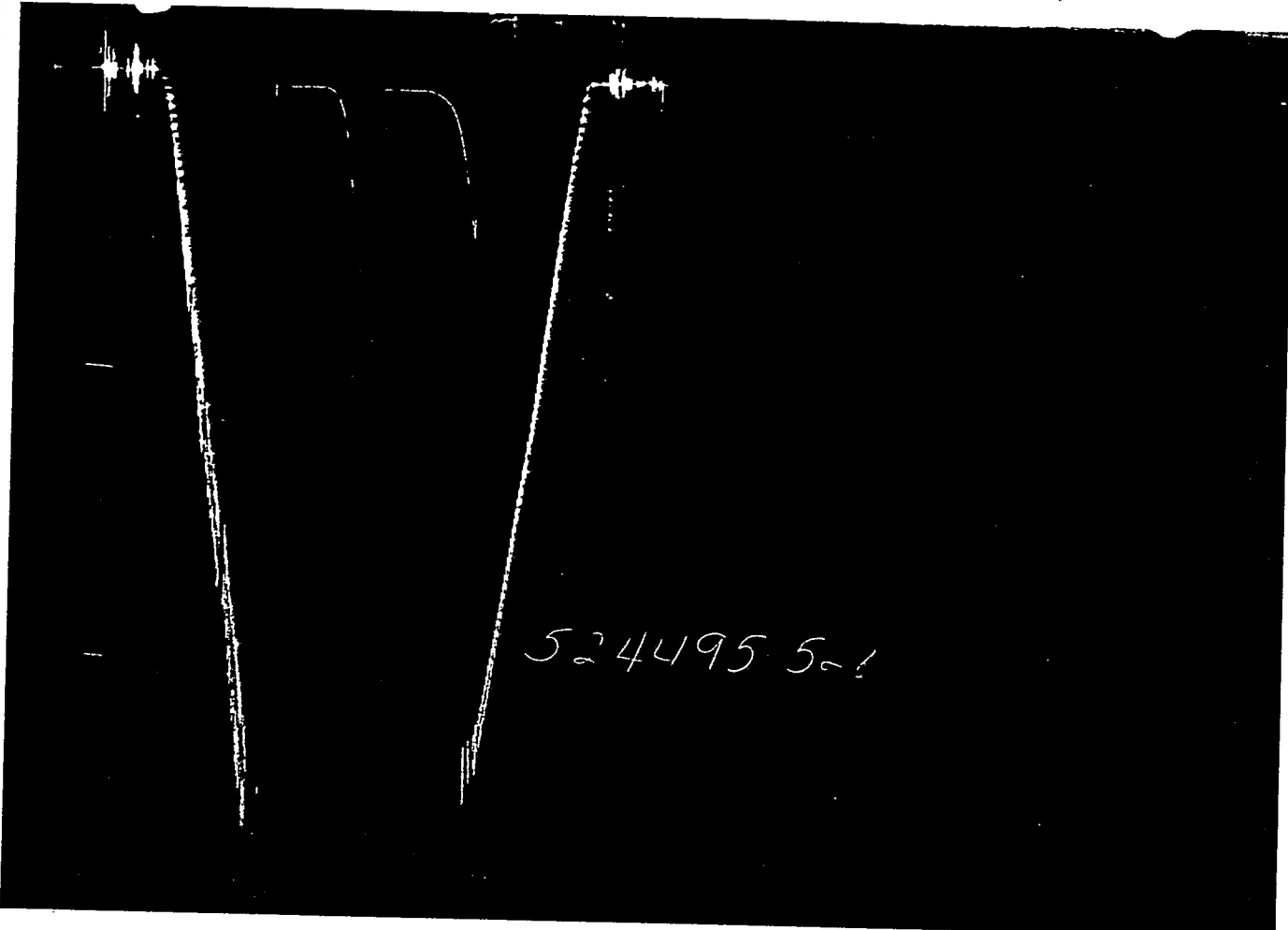
* Potentiometric Surface Reference to Rotary Table When Elevation Not Given,
Fresh Water Corrected to 100° F.

↑ PRESSURE



TIME →

↓ PRESSURE



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

FLUID SAMPLE DATA				Date	Ticket Number	
Sampler Pressure _____ P.S.I.G. at Surface				Date	5-30-79	
Recovery: Cu. Ft. Gas _____				Kind of Job	OPEN HOLE	
cc. Oil _____				Halliburton District	NESS CITY	
cc. Water _____				Tester	D. FRICK	
cc. Mud _____				Witness	B. JINKINS	
Tot. Liquid cc. _____				Drilling Contractor	BIG SPRINGS # 2 DR	
Gravity _____ ° API @ _____ °F.				EQUIPMENT & HOLE DATA		
Gas/Oil Ratio _____ cu. ft./bbl.				Formation Tested	Mississippi	
RESISTIVITY _____ CHLORIDE CONTENT _____				Elevation	-	
Recovery Water _____ @ _____ °F. _____ ppm				Net Productive Interval	-	
Recovery Mud _____ @ _____ °F. _____ ppm				All Depths Measured From	Kelly Bushing	
Recovery Mud Filtrate _____ @ _____ °F. _____ ppm				Total Depth	4551' Ft.	
Mud Pit Sample _____ @ _____ °F. _____ ppm				Main Hole/Casing Size	7 7/8"	
Mud Pit Sample Filtrate _____ @ _____ °F. _____ ppm				Drill Collar Length	- I.D. -	
Mud Weight 9.1 vis 48 sec				Drill Pipe Length	4512' I.D. 3.826"	
Cushion TYPE AMOUNT Ft. Depth Back Pres. Valve				Packer Depth(s)	4528-4534' Ft.	
				Depth Tester Valve	4523' Ft.	
Cushion				Surface Choke	.25"	
				Bottom Choke	.75"	
Recovered 145 Feet of oil cut mud				Field Area		
Recovered Feet of				Meas. From Tester Valve		
Recovered Feet of						
Recovered Feet of						
Recovered Feet of						
Remarks SEE PRODUCTION TEST DATA SHEET						
				County NESS		
				State KANSAS		
TEMPERATURE		Gauge No. 684	Gauge No. 528	Gauge No.	TIME	
		Depth: 4536 Ft.	Depth: 4547 Ft.	Depth: . Ft.		
		12 Hour Clock	12 Hour Clock	Hour Clock	Tool A.M.	
Est. °F.		Blanked Off NO	Blanked Off YES	Blanked Off	Opened 12:45 P.M.	
4546'		Pressures		Pressures	Opened A.M.	
Actual 127 °F.		Pressures		Pressures	Bypass 4:15 P.M.	
		Field	Office	Field	Office	Reported
						Minutes
Initial Hydrostatic			2431.6	2437	2439.1	Computed
						Minutes
First Period	Flow	Initial	21.1	29	29.2	
		Final	48.4	52	54.2	
	Closed in	1015.8	1014	1019.8		30 31
Second Period	Flow	Initial	62.5	62	64.5	
		Final	82.7	86	85.1	
	Closed in	805.6	799	805.3		60 61
Third Period	Flow	Initial				
		Final				
	Closed in					60 60
Final Hydrostatic			2403.1	2402	2401.7	

Legal Location Sec. - Twp. - Rng. 34-16S-26W
 Lease Name JUMBLER
 Well No. 1
 Test No. 3
 Tested Interval 4034-4031
 County NESS
 State KANSAS
 Lease Owner/Company Name NAWASCH OIL CORPORATION

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Gauge No.		684		Depth		4536'		Clock No.		14853		12 hour		Ticket No.		524496	
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"	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.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.		
0	.000	21.1	.000		48.4	.000	62.5	.000		82.7							
1	.0412*	26.4	.0196**		102.1	.0741***	63.3	.0263		135.5							
2	.0756	32.5	.0458		366.2	.1415	68.6	.0527		249.1							
3	.1100	37.8	.0720		586.6	.2089	72.2	.0790		392.6							
4	.1443	42.2	.0981		700.5	.2763	75.7	.1053		490.3							
5	.1787	45.7	.1243		772.3	.3436	79.2	.1317		555.1							
6	.2130	48.4	.1505		830.1	.4110	82.7	.1580		605.0							
7			.1767		865.1			.1843		643.6							
8			.2028		895.8			.2106		675.1							
9			.2290		921.2			.2370		701.4							
10			.2552		943.1			.2633		725.9							
11			.2813		963.2			.2896		745.1							
12			.3075		979.8			.3160		763.5							
13			.3337		993.0			.3423		778.4							
14			.3598		1005.2			.3686		793.3							
15			.3860		1015.8			.3950		805.6							

Gauge No.		528		Depth		4547'		Clock No.		4205		hour 12			
	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.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.
0	.000	29.2	.000		54.2	.000	64.5	.000		85.1					
1	.0405*	34.4	.0199**		105.8	.0728***	67.1	.0265		141.9					
2	.0742	39.5	.0464		357.1	.1391	71.4	.0529		251.2					
3	.1079	43.8	.0729		577.1	.2053	83.4	.0794		389.8					
4	.1416	47.3	.0994		691.2	.2715	78.3	.1059		489.6					
5	.1753	50.7	.1259		766.7	.3377	81.7	.1324		555.7					
6	.2090	54.2	.1524		824.1	.4040	85.1	.1588		604.6					
7			.1789		864.4			.1853		644.0					
8			.2054		897.0			.2118		674.0					
9			.2319		923.6			.2382		703.2					
10			.2585		946.8			.2647		723.8					
11			.2850		965.6			.2912		743.5					
12			.3115		981.9			.3176		760.7					
13			.3380		995.6			.3441		777.8					
14			.3645		1009.4			.3706		792.4					
15			.3910		1019.8			.3970		805.3					

Reading Interval 5

4

10

4

Minutes

REMARKS: *-6 minutes **-3 minutes ***-11 minutes.

	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing	5.75"	2.75"	1'	4450'
Reversing Sub				
Water Cushion Valve				
Drill Pipe	4.5"	3.826"	4512'	
Drill Collars				
Handling Sub & Choke Assembly	5"	.87"	6'	4513'
Dual CIP Valve				
Dual CIP Sampler	5"	.75'	5'	4523'
Hydro-Spring Tester				
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6.75"	1.53 "	6'	4528'
Distributor				
Packer Assembly	6.75"	1.53 "	6'	4534'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
AP. CASE	5"	3.06"	4'	4536'
Drill Collars				
Flush Joint Anchor	5/8"	3.84"	6'	
	5"	3"	1.5'	4546' HT-500
Blanked-Off B.T. Running Case	5"	2.39"	4'	4547'
Total Depth				4551'

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TEMPERATURE RECORDER CHART

#524496

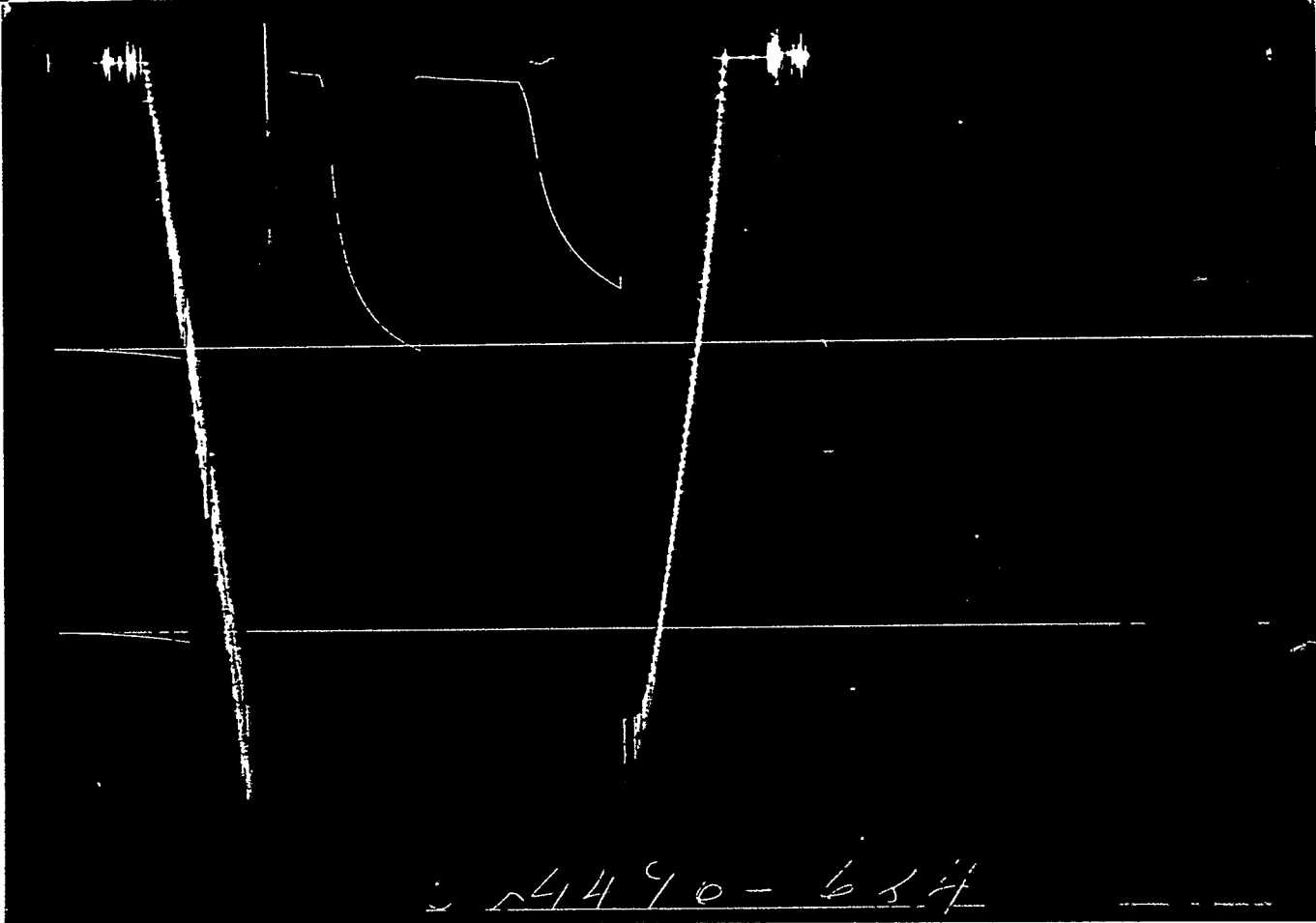


10° each circle

- OF₃ = Theoretical Open Flow Potential with/Damage
- 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
- Q_T = 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

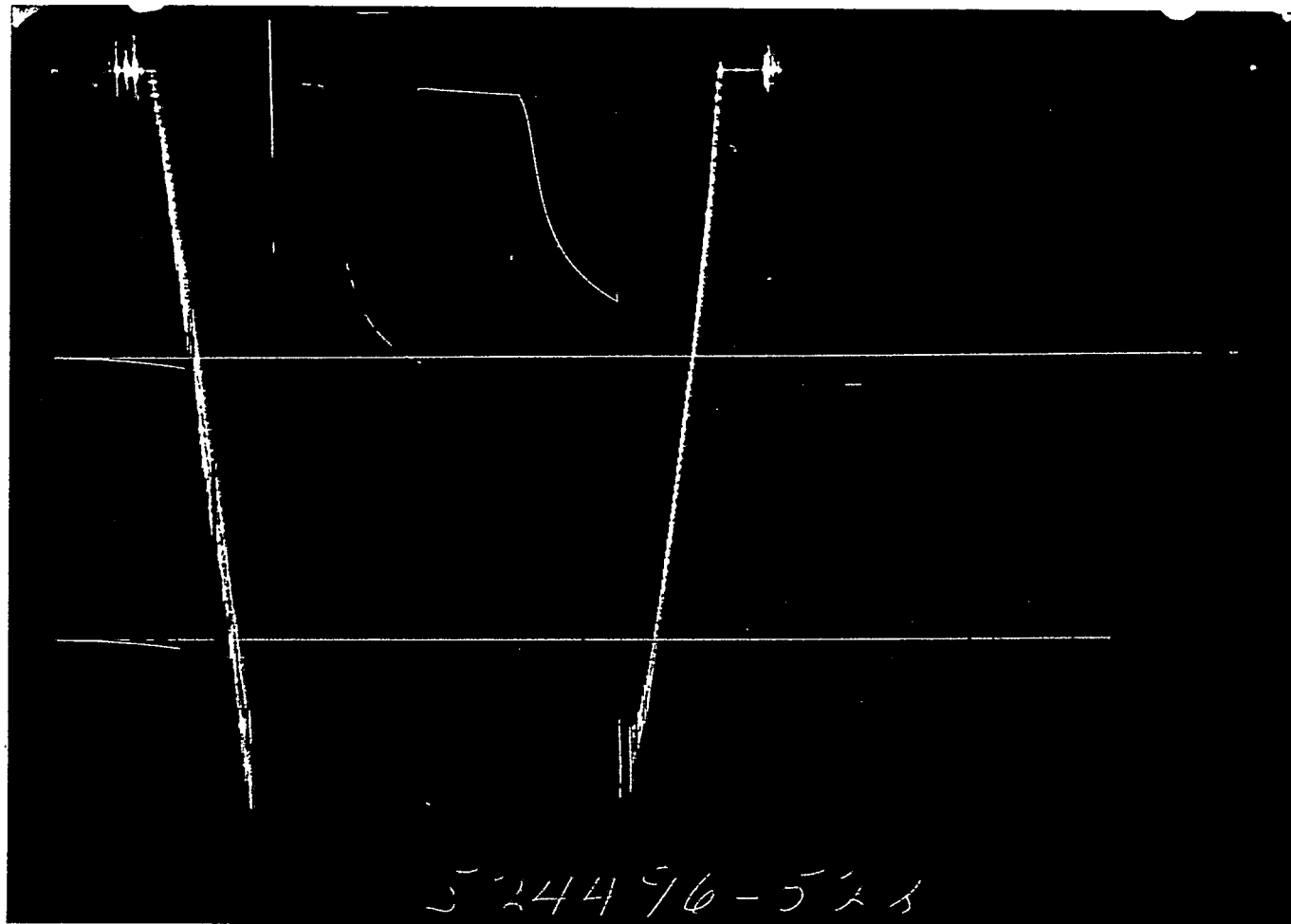
* Potentiometric Surface Reference to Rotary Table When Elevation Not Given,
Fresh Water Corrected to 100° F.

PRESSURE



24490-65H

TIME



24496-52H

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