

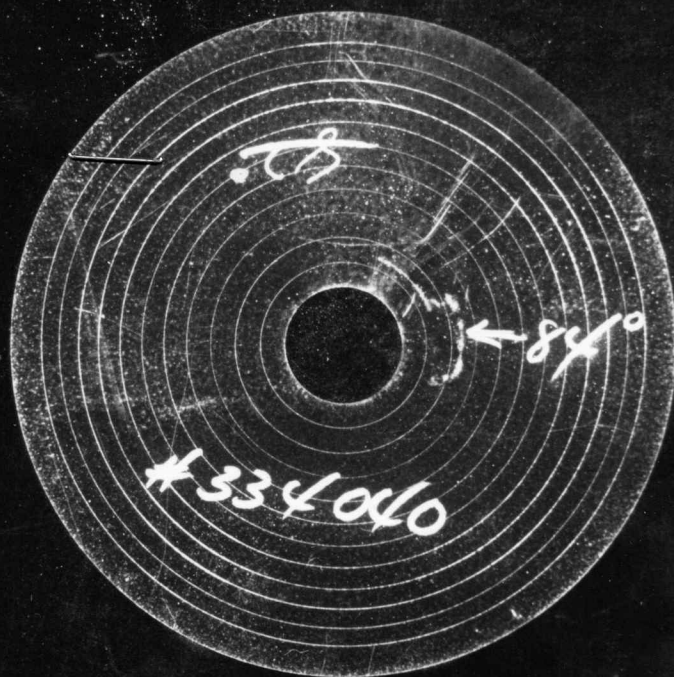
Casing perms. _____ Bottom choke _____ Surf. temp _____ °F Ticket No. 334040
Gas gravity _____ Oil gravity _____ GOR _____
Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED.

[illegible]

	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Reversing Sub				
Water Cushion Valve				
Drill Pipe	4.50 ⁱⁿ	3.826 ⁱⁿ	280 ^{ft}	
Drill Collars WEIGHT PIPE.....	4.50 ⁱⁿ	2.764 ⁱⁿ	990 ^{ft}	
Handling Sub & Choke Assembly				
Dual CIP Valve	5.00 ⁱⁿ	.87 ⁱⁿ	70 ^{ft}	1270 [']
Dual CIP Sampler				
Hydro-Spring Tester	5.00 ⁱⁿ	.75 ⁱⁿ	60.21 ^{ft}	1275 [']
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5.00 ⁱⁿ	3.06 ⁱⁿ	49.63 ^{ft}	1280 [']
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6.75 ⁱⁿ	1.53 ⁱⁿ	48.89 ^{ft}	1285 [']
Distributor				
Packer Assembly	6.75 ⁱⁿ	1.53 ⁱⁿ	48.89 ^{ft}	1290 [']
Flush Joint Anchor	5.00 ⁱⁿ	3.00 ⁱⁿ	13 ^{ft}	
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				
Flush Joint Anchor				
Blanked-Off B.T. Running Case	5.00 ⁱⁿ	2.44 ⁱⁿ	48.71 ^{ft}	1303 [']
Total Depth				1307 [']

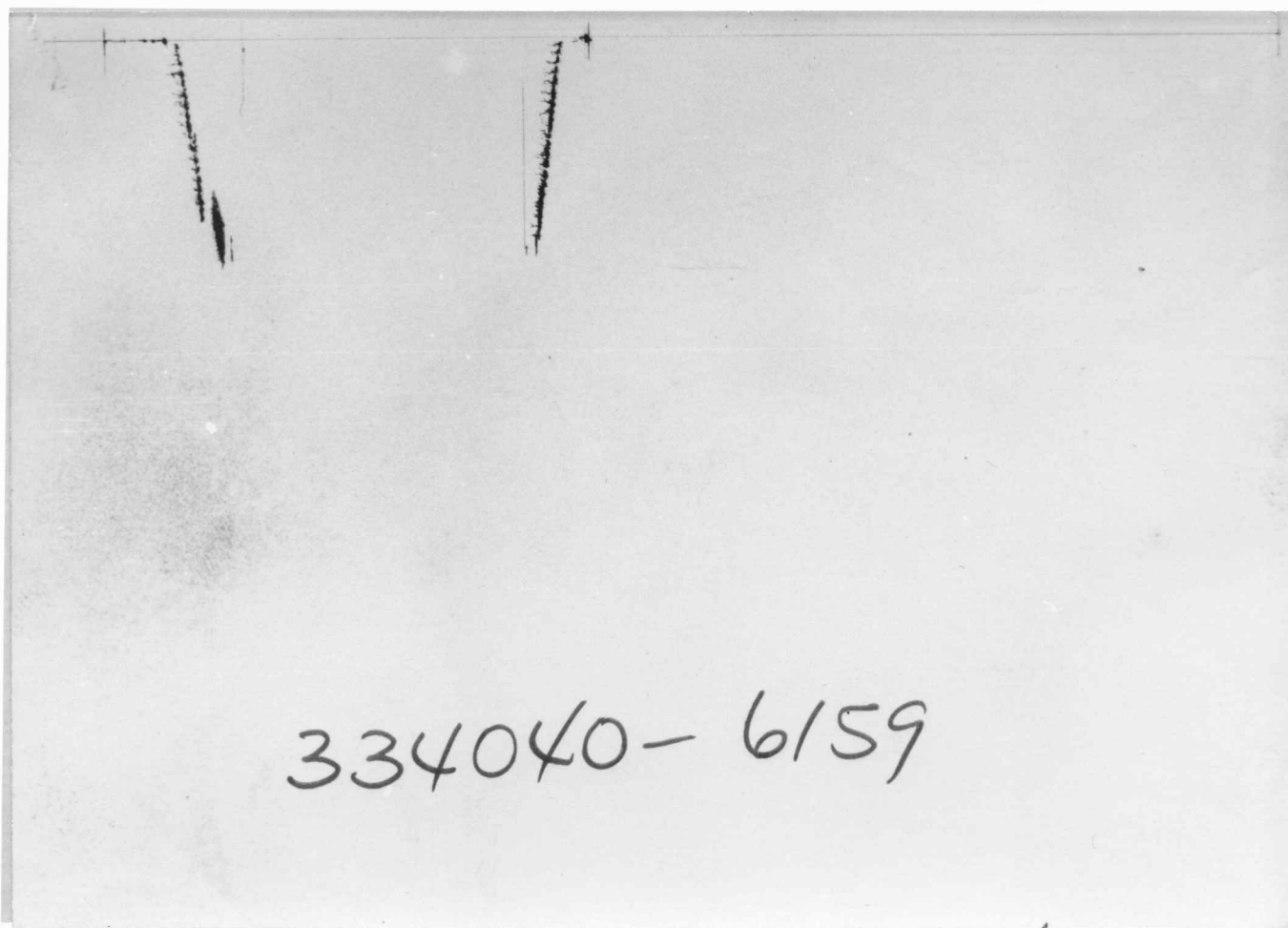
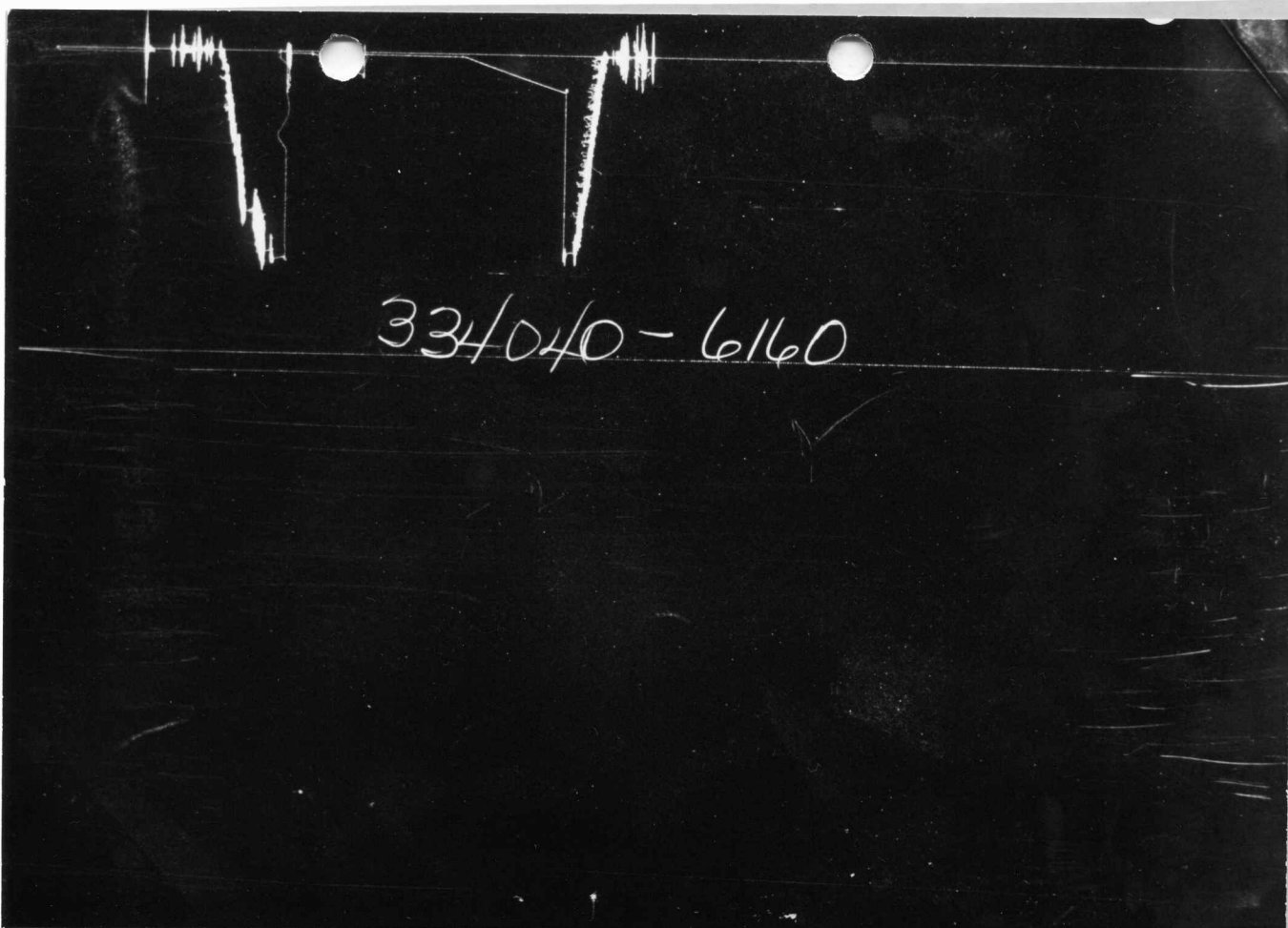
TEMPERATURE RECORDER CHART



- 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_{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.



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

TIGHT HOLE

FLUID SAMPLE DATA				Date		Ticket Number	
Sampler Pressure _____ P.S.I.G. at Surface				1-12-78		259351	
Recovery: Cu. Ft. Gas _____				Kind of Job		Halliburton District	
cc. Oil _____				OPEN HOLE		WINFIELD	
cc. Water _____				Tester		Witness	
cc. Mud _____				MR. O'NEAL		MR. BAKER	
Tot. Liquid cc. _____				Drilling Contractor		RED TIGER DRILLING COMPANY BC S	
Gravity _____ ° API @ _____ ° F.				EQUIPMENT & HOLE DATA			
Gas/Oil Ratio _____ cu. ft./bbl.				Formation Tested _____			
RESISTIVITY _____ CHLORIDE CONTENT _____				Elevation _____ Ft.			
Recovery Water @ _____ ° F. _____ ppm				Net Productive Interval 12' _____ Ft.			
Recovery Mud @ _____ ° F. _____ ppm				All Depths Measured From Kelly Bushing			
Recovery Mud Filtrate @ _____ ° F. _____ ppm				Total Depth 3500' _____ Ft.			
Mud Pit Sample @ _____ ° F. _____ ppm				Main Hole/Casing Size 7.875"			
Mud Pit Sample Filtrate @ _____ ° F. _____ ppm				Drill Collar Length 960' WP I.D. 2.764"			
Mud Weight _____ vis _____ sec				Drill Pipe Length 2475' I.D. 3.826"			
				Packer Depth(s) 3459' - 3465' _____ Ft.			
				Depth Tester Valve 3442' _____ Ft.			
TYPE		AMOUNT		Depth Back Pres. Valve		Surface Choke	
Cushion				Ft.		Bottom Choke	
Recovered		1800 Feet of		Oil (35.89° API Gravity @ 60°F)			
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Remarks		SEE PRODUCTION TEST DATA SHEET!					
		TIGHT HOLE.....					
TEMPERATURE		Gauge No. 566		Gauge No. 239		Gauge No.	
Depth:		3445' Ft.		3497' Ft.		Ft.	
12 Hour Clock		12 Hour Clock		Hour Clock		TIME	
Est. ° F.		Blanked Off NO		Blanked Off YES		Blanked Off	
3495'						Tool A.M.	
Actual 103 ° F.						Opened 0632 P.M.	
		Pressures		Pressures		Pressures	
		Field Office		Field Office		Field Office	
Initial Hydrostatic		1805				Reported Minutes	
First Period Flow Initial		133				Computed Minutes	
Final		253		STYLUS NOT		15 15	
Closed in		1426		ENGAGED...		30 30	
Second Period Flow Initial		300				45 44	
Final		723				60 61	
Closed in		1409					
Third Period Flow Initial							
Final							
Closed in							
Final Hydrostatic		1802					

Legal Location
Sec. - Twp. - Rng.

TREMBLY

Lease Name

1

2

3465' - 3500'

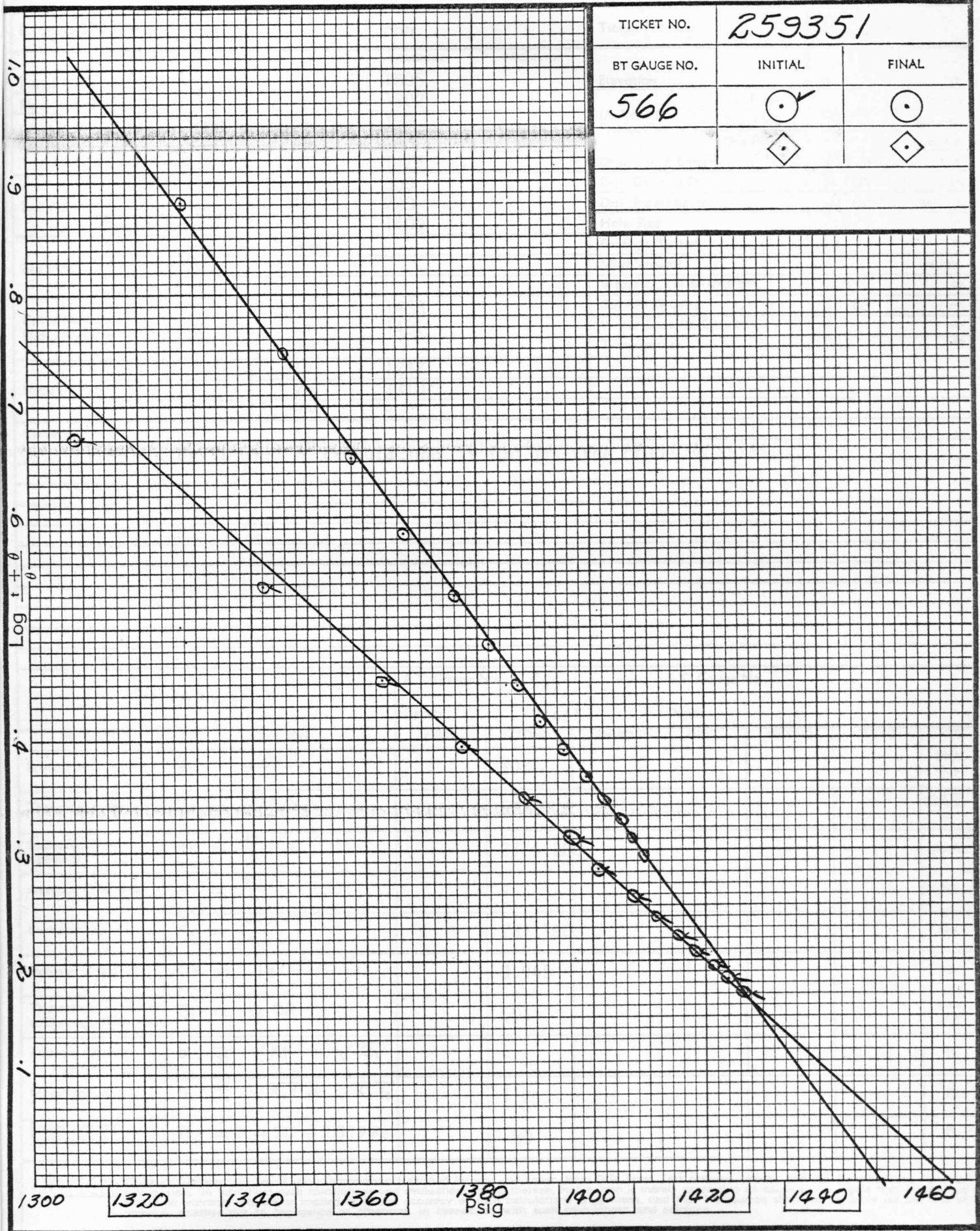
NATIONAL COOPERATIVE REFINING ASSOCIATION

Lease Owner/Company Name

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Casing perms. _____ Bottom choke _____ Surf. temp _____ °F Ticket No. **259351**
 Gas gravity _____ Oil gravity _____ GOR _____
 Spec. gravity _____ Chlorides _____ ppm Res. _____ °F
INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED **2" Merla Orifice well tester**

Date	Time	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
1-11-78						
	1900					Called out
	2150					On location
1-12-78	0440					Made up tools
	0530					Started in hole
	0632					Opened tool
	0647					Closed tool
	0717					Opened tool
	0722	1/8"	6	7.06		Gas to surface
	0727	"	16	12.5		
	0732	"	22	15.5		
	0737	"	27	17.8		
	0742	"	31	19.4		
	0747	"	35	21.2		
	0752	"	37	22.1		
	0757	"	38	22.5		
	0802	"	40	23.3		Closed tool
	0902					Started out of hole
	0940					Reversed out
	1200					Out of hole



TICKET NO.	259351	
BT GAUGE NO.	INITIAL	FINAL
566		

EXTRAPOLATED PRESSURE GRAPH

Liquid Production

B.T. Gauge Numbers			566		Ticket Number	259351
			PRESSURE	PRESSURE		
Initial Hydrostatic			1805		Elevation	- ft.
Final Hydrostatic			1802		1st Flow	- bbls./day
1st Flow	Initial	Time	133		Indicated Production	501 bbls./day
	Final	15	253		2nd Flow	- bbls./day
	Closed In Pressure	30	1426		3rd Flow	- bbls./day
2nd Flow	Initial		300		Drill Collar Length	960 WP ft.
	Final	44	723		Drill Collar I.D.	2.764 in.
	Closed In Pressure	61	1409		Drill Pipe Factor	.01422 bbls./ft.
3rd Flow	Initial	Time			Hole Size	7.875 in.
	Final				Footage Tested	12 ft.
	Closed In Pressure				Mud Weight	- lbs./gal.
Extrapolated Static Pressure	1st		1463		Viscosity, Oil or Water	4.8* cp
	2nd		1451		Oil API Gravity	35.89
	3rd		-		Water Specific Gravity	-
Slope P/10	1st		1247		Temperature	103 °F
	2nd		1310			
	3rd		-			

Remarks:

The viscosity used in calculations is for gas-free crude 35.89 oil

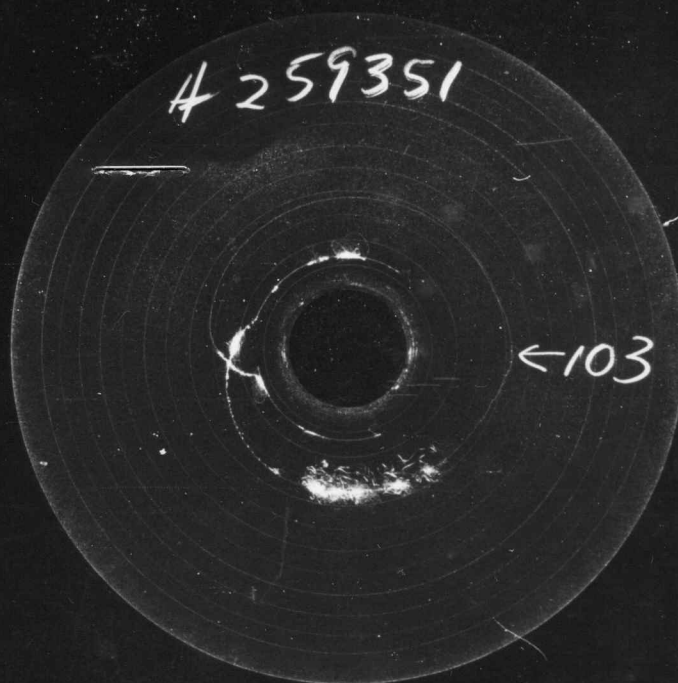
SUMMARY		B.T. Gauge No. 566			B.T. Gauge No.		
		Depth 3445'			Depth		
PRODUCT	EQUATION	FIRST	SECOND	THIRD	FIRST	SECOND	THIRD
Production	$Q = \frac{1440 R}{t}$		501				
Transmissibility	$\frac{Kh}{\mu} = \frac{162.6 Q}{m}$		577.976				
Indicated Flow Capacity	$Kh = \frac{Kh}{\mu} \mu$		2774.280				
Average Effective Permeability	$K = \frac{Kh}{h}$		-				
	$K_1 = \frac{Kh}{h_1}$		231.190				
Damage Ratio	$DR = .183 \frac{P_s - P_f}{m}$		0.945				
Theoretical Potential w/Damage Removed	$Q_1 = Q DR$		501				
Approx. Radius of Investigation	$b \approx \sqrt{Kt}$ or $\sqrt{Kt_0}$		-				
	$b_1 \approx \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$		117				
Potentiometric Surface *	$Pot. = EI - GD + 2.319 P_s$		-80				

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.

	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing	5.75"	2.75"	1'	3313'
Reversing Sub				
Water Cushion Valve				
Drill Pipe	4.5"	3.826"	2475'	
Drill Collars	4.5" WP	2.764"	960'	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	4.87'	3437'
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5.02'	3442'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"		4.13'	3445'
Hydraulic Jar	5"		5'	
VR Safety Joint	5"		2.78'	
Pressure Equalizing Crossover				
Packer Assembly	6.75"	1.53"	5.81'	3459'
Distributor				
Packer Assembly	6.75"	1.53"	5.81'	3465'
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				
Flush Joint Anchor	5"	2.37"	29'	
Blanked-Off B.T. Running Case	5"	2.44"	4.06'	3497'
Total Depth				3500'

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TEMPERATURE RECORDER CHART



10° each circle

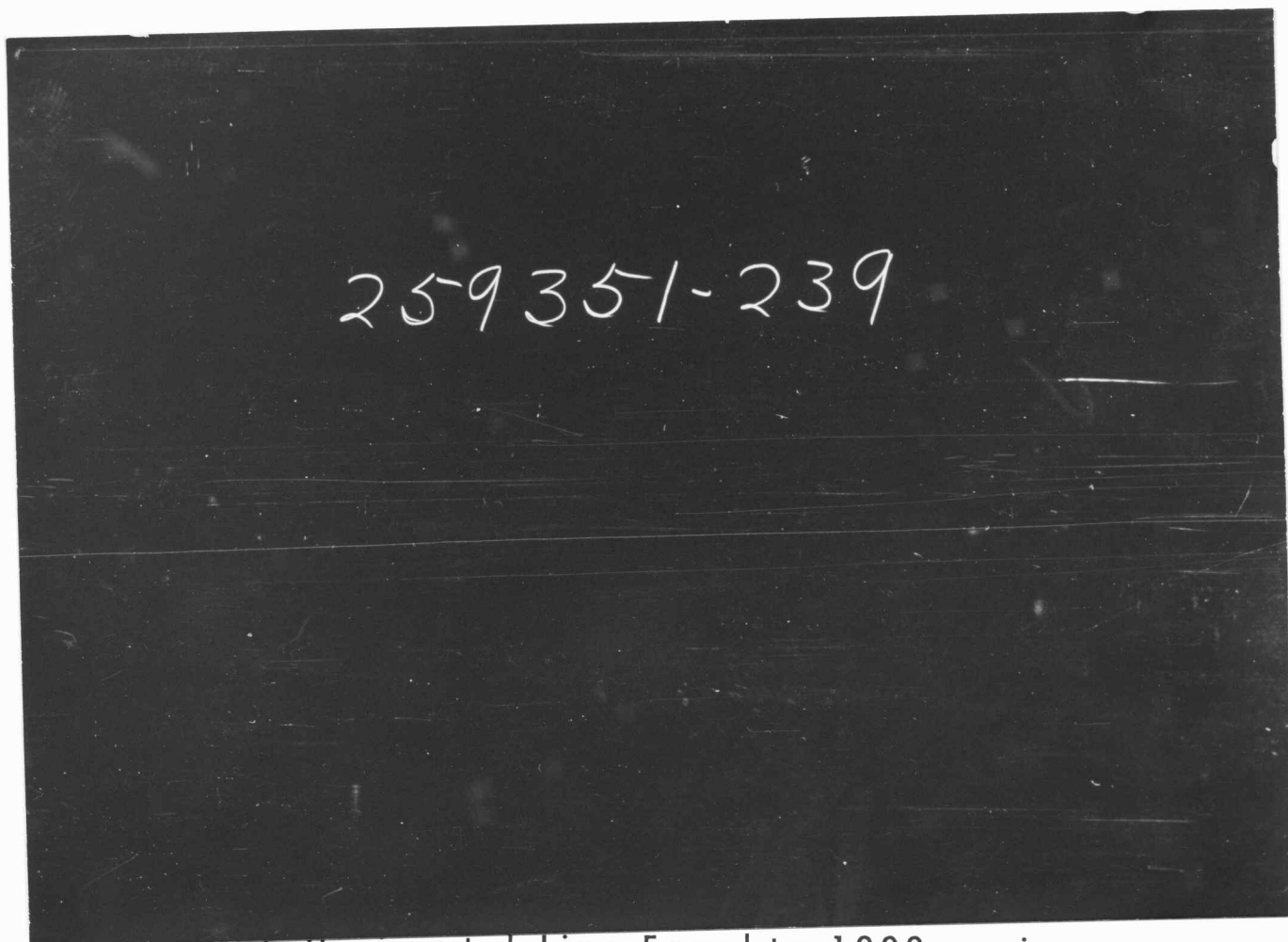
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r_w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
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Z	= Compressibility Factor	—
μ	= Viscosity Gas or Liquid	CP
Log	= Common Log	

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Fresh Water Corrected to 100° F.

— PRESSURE —
↓



— TIME —→



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