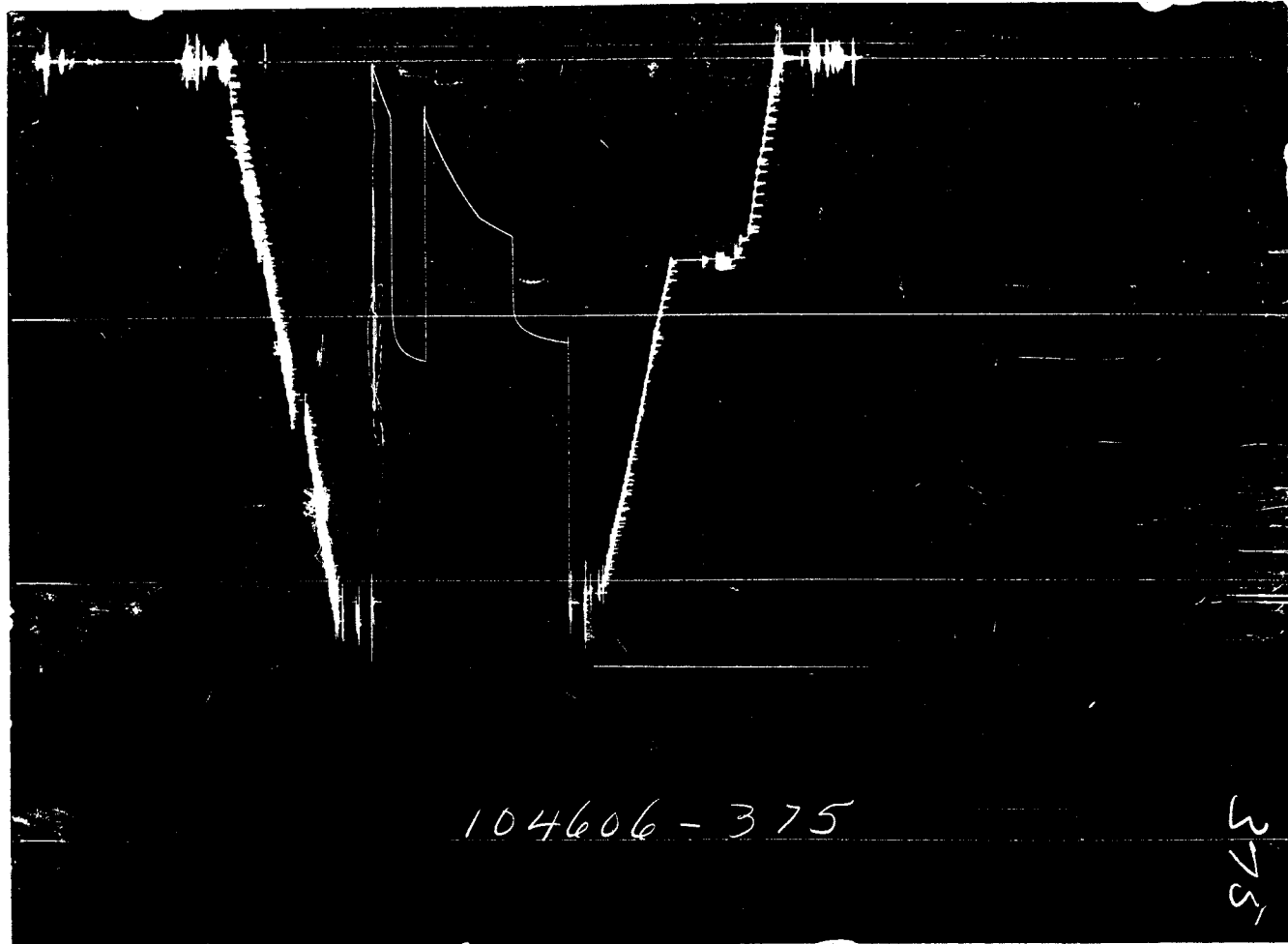


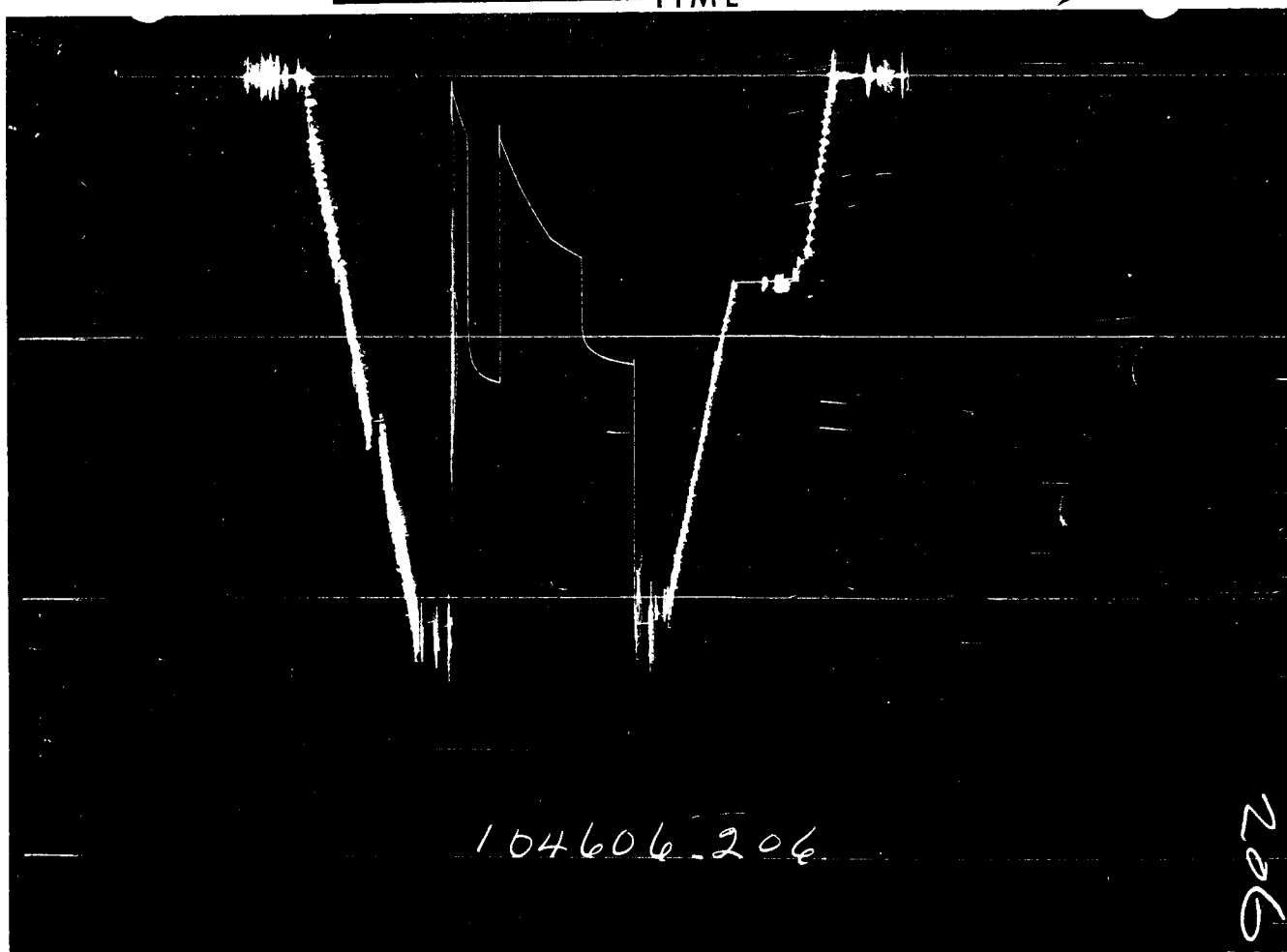
FLUID SAMPLER DATA				Date 5-28-69 Ticket Number 104606			
Sampler Pressure _____ P.S.I.G. at Surface Recovery: Cu. Ft. Gas _____ cc. Oil _____ cc. Water _____ cc. Mud _____ Tot. Liquid cc. _____ Gravity _____ ° API @ _____ ° F. Gas/Oil Ratio _____ cu. ft./bbl.				Kind of Job OPEN HOLE Halliburton District HAYS OPE Tester MR. POPP Witness MR. WAITE Drilling Contractor RED TIGER DR S			
EQUIPMENT & HOLE DATA							
Formation Tested Arbuckle				Elevation 2247 KB Ft.			
Net Productive Interval 3970'-3995' Ft.				All Depths Measured From Kelly Bushing			
Total Depth 3995' Ft.				Main Hole/Casing Size 7 7/8			
Drill Collar Length - I.D.				Drill Pipe Length 3955 I.D. 2.76			
Packer Depth(s) 3970 Ft.				Depth Tester Valve 3965 Ft.			
TYPE AMOUNT Depth Back Surface Bottom Cushion - Ft. Pres. Valve - Choke 1/2" Choke 3/4"							
Recovered 1440 Feet of salt water (24 stands)				Meas. From Tester Valve			
Recovered Feet of							
Recovered Feet of							
Recovered Feet of							
Recovered Feet of							
Remarks Opened tool for 10 minute first flow. Closed tool for 21 minute first closed in pressure. Reopened tool for 54 minute second flow. Closed tool for 35 minute second closed in pressure.							
TEMPERATURE		Gauge No. 375 Depth: 3975 Ft.	Gauge No. 206 Depth: 3990 Ft.	Gauge No. Depth: Ft.	TIME		
Est. 110 °F.	Blanked Off No	Blanked Off Yes	Blanked Off	Tool Opened 12:40 P.M.	xxxxxx		
3989' @ Actual 118 °F.	Pressures	Pressures	Pressures	Tool Closed 2:00 P.M.	xxxxxx		
	Field	Office	Field	Office	Field	Office	Reported Minutes
First Period	Initial Hydrostatic	2104		2117			Computed Minutes
	Flow Initial	24		57			
	Flow Final	219		232			10
Second Period	Closed in	1159		1171			21
	Flow Initial	232		243			
	Flow Final	689		699			54
Third Period	Closed in	1091		1103			35
	Flow Initial						
	Flow Final						
	Closed in						
	Final Hydrostatic	2086		2099			

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub				3945
Water Cushion Valve				
Drill Pipe				
Drill Collars				
Handling Sub & Choke Assembly				3960
Dual CIP Valve				3965
Dual CIP Sampler				
Hydro-Spring Tester				
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly				
Distributor				
Packer Assembly				3970
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				3975
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor				
Blanked-Off B.T. Running Case				3990
				3995TD

PRESSURE



TIME



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

TEMPERATURE
RECORDER
CHART



10° each circle

NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b_1	= Approximate Radius of Investigation (Net Pay Zone h_1)	Feet
$D.R.$	= Damage Ratio	—
E_l	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h_1	= Net Pay Thickness	Feet
K	= Permeability	md
K_1	= Permeability (From Net Pay Zone h_1)	md
m	= Slope Extrapolated Pressure Plot ($psi^2/cycle$ Gas)	psi/cycle
OF_1	= Maximum Indicated Flow Rate	MCF/D
OF_2	= Minimum Indicated Flow Rate	MCF/D
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	bbbls/day
Q_1	= Theoretical Production w/Damage Removed	bbbls/day
Q_g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbbls
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.