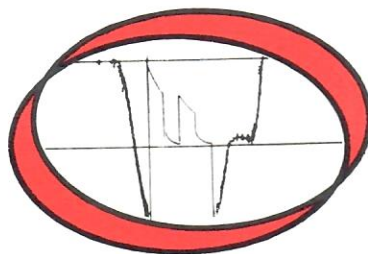
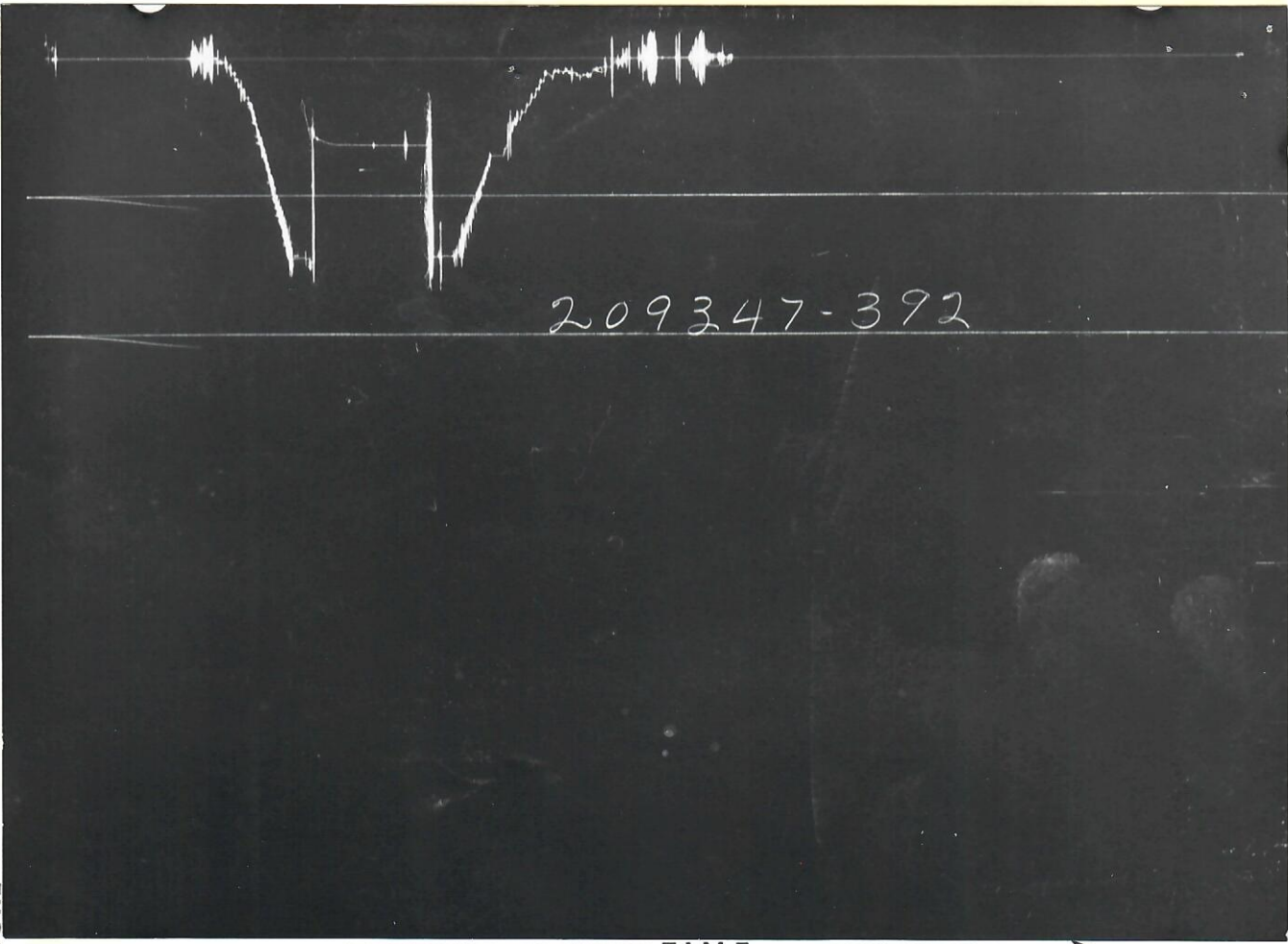


Formation Testing Service Report





209347-392

This graph shows a pressure signal over time. The signal starts with a high-frequency burst, then drops sharply to a lower level, remains relatively stable with minor fluctuations, and then rises back to the initial high level. The background is black with horizontal white grid lines.

TIME



209347-199

This graph shows a pressure signal over time, similar to the one above. It features a high-frequency burst at the start, a sharp drop to a lower level, a period of stability, and a final rise back to the high level. The background is black with horizontal white grid lines.

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

FLUID SAMPLE DATA				Date 1-2-71		Ticket Number 209347	
Sampler Pressure 425 P.S.I.G. at Surface				Kind of Job OPEN HOLE		Halliburton District LIBERAL	
Recovery: Cu. Ft. Gas _____				Tester MR. THOMAS		Witness MR. MARCHETTI	
cc. Oil _____				Drilling Contractor L AND F DRILLING COMPANY DR			
cc. Water 2200				EQUIPMENT & HOLE DATA			
cc. Mud _____				Formation Tested Lyons			
Tot. Liquid cc. 2200				Elevation 4296' Ft.			
Gravity _____ ° API @ _____ ° F.				Net Productive Interval 35' Ft.			
Gas/Oil Ratio _____ cu. ft./bbl.				All Depths Measured From Kelly Bushing			
RESISTIVITY CHLORIDE CONTENT				Total Depth 2943' Ft.			
Recovery Water .15 @ 65 °F. 58,000 ppm				Main Hole/Casing Size 7 7/8"			
Recovery Mud _____ @ _____ °F.				Drill Collar Length 632' I.D. 2.25"			
Recovery Mud Filtrate _____ @ _____ °F. _____ ppm				Drill Pipe Length 2349' I.D. 3.826"			
Mud Pit Sample _____ @ _____ °F.				Packer Depth(s) 2885'-2891' Ft.			
Mud Pit Sample Filtrate _____ @ _____ °F. _____ ppm				Depth Tester Valve 2865' Ft.			
Mud Weight 9 vi36 cp							
TYPE		AMOUNT		Depth Back		Surface	
Cushion				Ft. Pres. Valve		Choke	
Recovered 1196		Feet of muddy water-heavy sand laden				RECEIVED	
Recovered		Feet of				FEB - 3 1971	
Recovered		Feet of				COLO. OIL & GAS CONS. COMM.	
Recovered		Feet of					
Recovered		Feet of					
Remarks Opened tool for 15 minute first flow with a strong blow throughout flow.							
Closed tool for 20 minute first closed in pressure. Reopened tool for 20 minute							
second flow with a weak decreasing to a dead blow in 15 minutes. Closed tool for							
15 minute second closed in pressure.							
TEMPERATURE		Gauge No. 392		Gauge No. 199		Gauge No.	
Depth:		2869 Ft.		2939 Ft.		Depth: Ft.	
Est. 120 °F.		12 Hour Clock		12 Hour Clock		Hour Clock	
Blanked Off No		Blanked Off Yes		Blanked Off		Tool A.M.	
Actual 118 °F.		Pressures		Pressures		Opened 6:58-- P.M.	
		Field Office		Field Office		Tool A.M.	
		1447 1447		1479		Closed 8:08-- P.M.	
		Initial Hydrostatic		Initial		Reported Computed	
		427 499		607		Minutes Minutes	
First Period		Flow Initial		612 623		15	
		Final		631 623		20	
		Closed in		631 623			
Second Period		Flow Initial		631 623		20	
		Final		631 623		15	
		Closed in		631 623			
Third Period		Flow Initial					
		Final					
		Closed in					
		Final Hydrostatic		1429 1436		1465	

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5½"	2.5"	1'	
Water Cushion Valve				
Drill Pipe	4½"	3.826"	2349'	
Drill Collars	6½"	2.25"	632'	
Handling Sub & Choke Assembly				
Dual CIP Valve				
Dual CIP Sampler	5"	.87"	6'	2865'
Hydro-Spring Tester	5"	.75"	4'	
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	3.04"	4'	2869'
Hydraulic Jar	5"	.87"	5'	
VR Safety Joint	5"	1.0"	2.75'	
Pressure Equalizing Crossover				
Packer Assembly	5"	1.53"	6'	2885'
Distributor				
Packer Assembly	5"	1.53"	6'	2891'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars	6½"	2.25"	30'	
Flush Joint Anchor	5"	3.4"	18'	
Blanked-Off B.T. Running Case	5"	3.06"	4'	2939'

NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b₁	= Approximate Radius of Investigation (Net Pay Zone h ₁)	Feet
D.R.	= Damage Ratio	—
EI	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h₁	= Net Pay Thickness	Feet
K	= Permeability	md
K₁	= Permeability (From Net Pay Zone h ₁)	md
m	= Slope Extrapolated Pressure Plot (Psi ² /cycle Gas)	psi/cycle
OF₁	= Maximum Indicated Flow Rate	MCF/D
OF₂	= Minimum Indicated Flow Rate	MCF/D
OF₃	= 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.