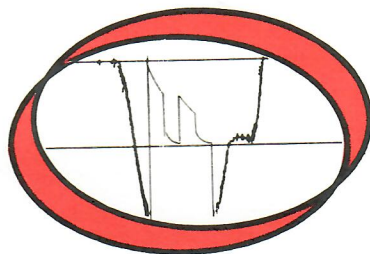


Formation Testing Service Report



00655195

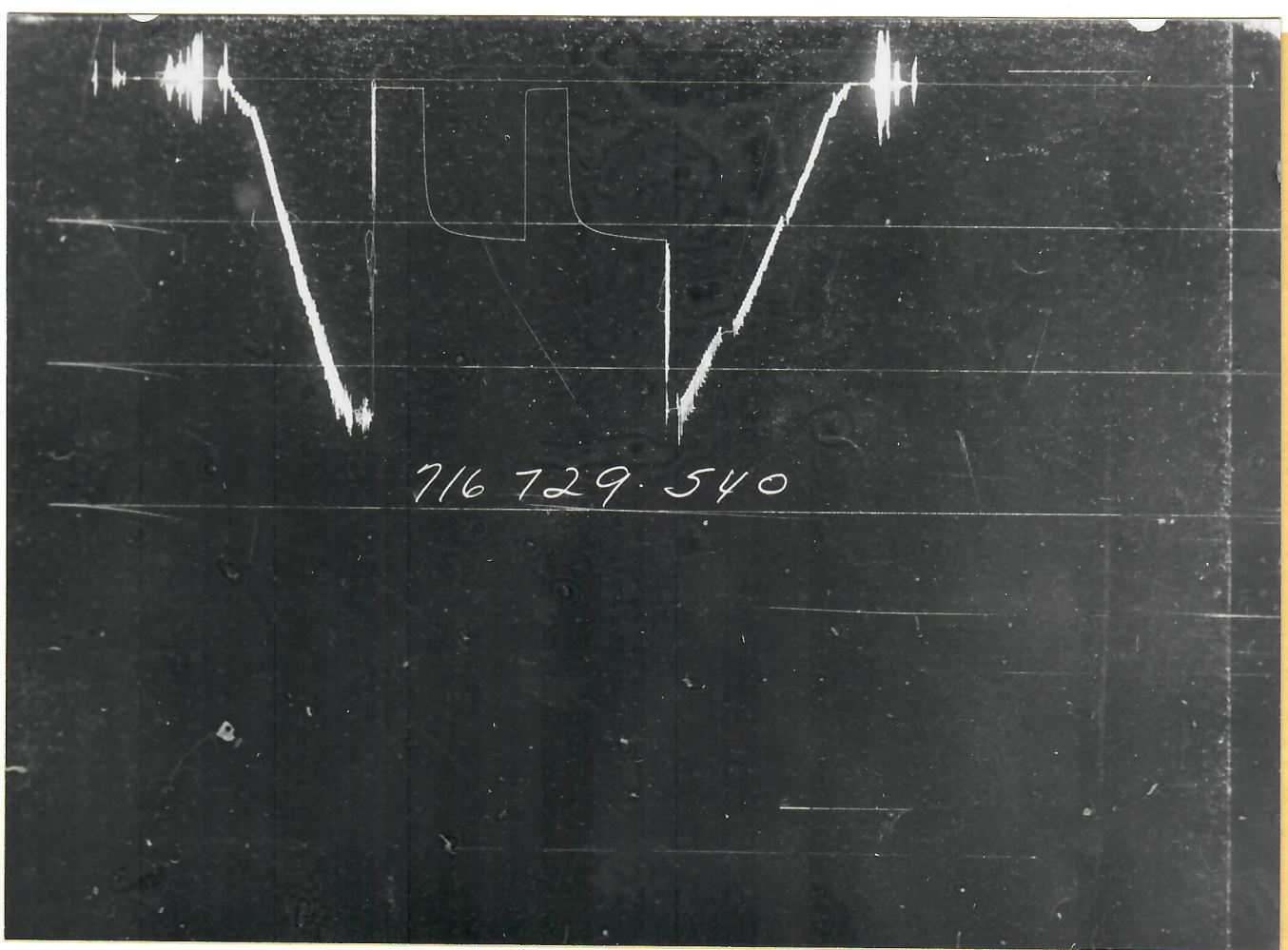
NWNE 34-25S-45W



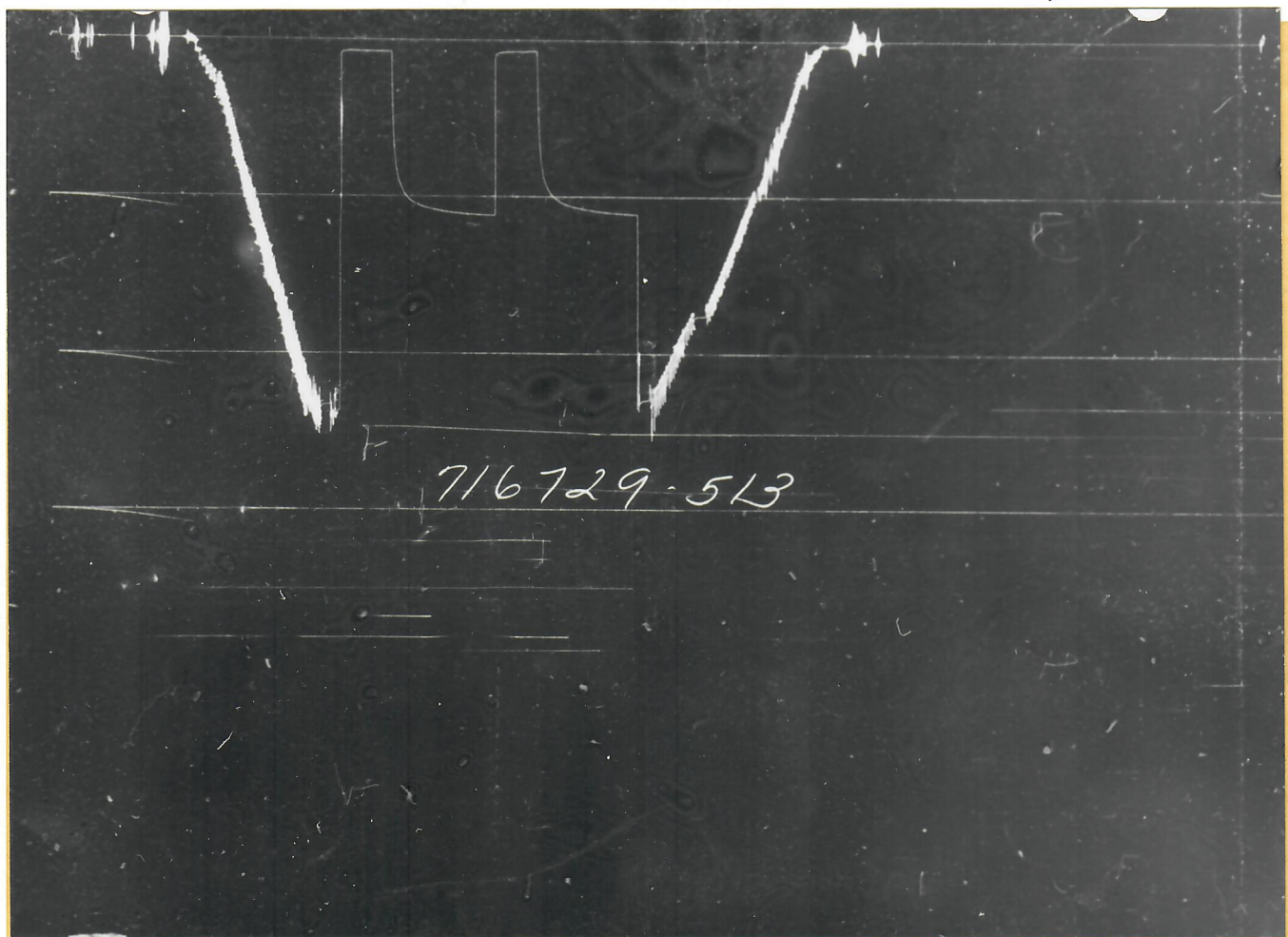
HALLIBURTON SERVICES

DUNCAN, OKLAHOMA

PRESSURE



TIME



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

COLORADO

Casing perms. _____ Bottom choke _____ Surf. temp. _____ °F Ticket No. 716729
Gas gravity _____ Oil gravity _____ GOR _____
Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

[illegible]

Gauge No. 540			Depth 4851'			Clock No. 3461			12 hour	Ticket No. 716729					
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	67	.0000		62	.0000	85	.0000		56					
1	.1980	62	.0329*		949	.0332*	65	.0199**		842					
2			.0592		1018	.0598	62	.0464		969					
3			.0855		1049	.0864	60	.0729		1018					
4			.1118		1068	.1130	60	.0994		1043					
5			.1381		1079	.1396	58	.1259		1061					
6			.1644		1090	.1660	56	.1524		1074					
7			.1907		1095			.1789		1081					
8			.2170		1101			.2054		1088					
9			.2433		1104			.2319		1094					
10			.2696		1110			.2584		1097					
11			.2959		1112			.2849		1101					
12			.3222		1115			.3114		1104					
13			.3485		1117			.3379		1108					
14			.3748		1119			.3644		1110					
15			.4010		1121			.3910		1112					

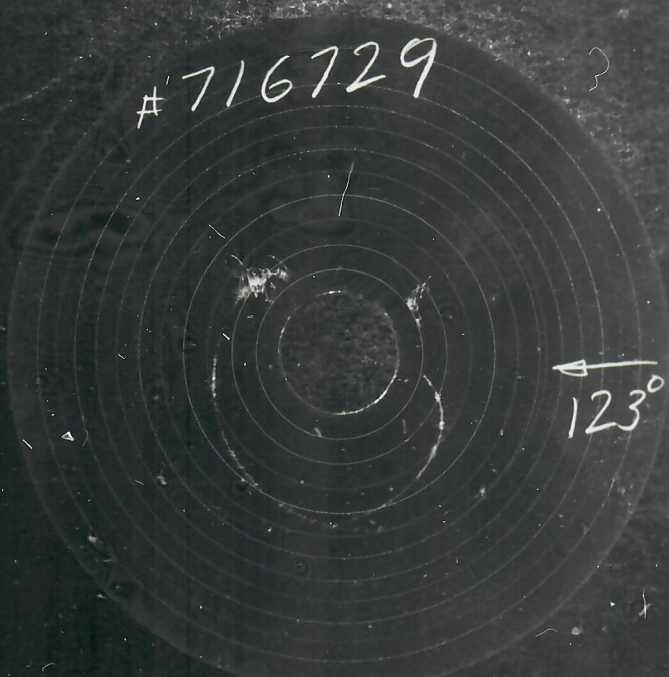
Gauge No. 513			Depth 4886'			Clock No. 3247			12 hour			
0	.0000	86	.0000		75	.0000	95	.0000		70		
1	.1980	75	.0335*		924	.0332*	76	.0201**		828		
2			.0603		1008	.0598	76	.0469		965		
3			.0871		1044	.0864	75	.0737		1020		
4			.1139		1064	.1130	73	.1005		1048		
5			.1407		1079	.1396	71	.1273		1062		
6			.1675		1090	.1660	70	.1541		1076		
7			.1943		1099			.1809		1084		
8			.2211		1104			.2077		1092		
9			.2479		1109			.2345		1097		
10			.2747		1113			.2613		1102		
11			.3015		1117			.2881		1107		
12			.3283		1120			.3149		1109		
13			.3551		1122			.3417		1112		
14			.3819		1123			.3685		1115		
15			.4090		1123			.3960		1117		
Reading Interval			4			4			4			Minutes

REMARKS: *First interval is equal to 5 minutes. ** = 3 minutes.

	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Reversing Sub	5 3/4"	2.75"	1'	4716'
Water Cushion Valve				
Drill Pipe	4 1/2"	3.826"	.4352'	
Drill Collars	6"	2.75"	478'	
Handling Sub & Choke Assembly	4 1/2"	3.826"	4'	
Dual CIP Valve				
Dual CIP Sampler	5"	.87"	5'	4841'
Hydro-Spring Tester	5"	.75"	5'	4846'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	3.06"	4'	4851'
Hydraulic Jar	5"	1.75"	5'	
VR Safety Joint	5"	1"	3'	
Pressure Equalizing Crossover				
Packer Assembly				
Distributor				
Packer Assembly				
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly	6 3/4"	1.53"	6'	4863'
Distributor				
Packer Assembly	6 3/4"	1.53"	6'	4869'
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	3.286"	17'	
Blanked-Off B.T. Running Case	5"	2.44"	4'	4886'
Total Depth				4890'

TEMPERATURE
RECORDER
CHART

716729



10° each circle

BEST IMAGE
AVAILABLE

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.