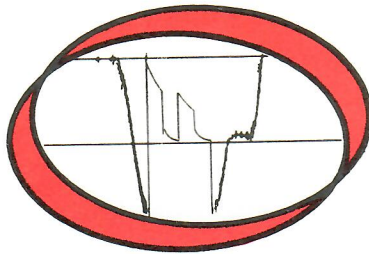


Formation Testing Service Report



CSE NW NE
34-255-45W



fill

HALLIBURTON SERVICES
DUNCAN, OKLAHOMA

716 729.540

PRESSURE

716 729.540

TIME

716 729.513

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

JON APPLING ETAL

Lease Name

Well No.

Test No.

Tested Interval

LITTLE'S OIL & GAS COMPANY

Legal Location
Sec. - Twp. - Rng.

34 25 45

Field Area

BARRELL SPRINGS

County

PROMERS

State

COLORADO

FLUID SAMPLE DATA

Sampler Pressure 300 P.S.I.G. at Surface
Recovery: Cu. Ft. Gas 2.2 cu. RECEIVED
cc. Oil
cc. Water MAY 8 1974
cc. Mud 50
Tot. Liquid cc. 50.0 OIL & GAS CONS. COMM.

Gravity ° API @ ° F.
Gas/Oil Ratio cu. ft./bbl.

RESISTIVITY CHLORIDE CONTENT
Recovery Water @ ° F. ppm
Recovery Mud 1.80 @ 68 ° F. 400 ppm
Recovery Mud Filtrate 1.95 @ 82 ° F. 400 ppm
Mud Pit Sample @ ° F. ppm
Mud Pit Sample Filtrate @ ° F. ppm
Mud Weight 9.1 vis 48 cp

Date 4-29-74 Ticket Number 716729

Kind of Job OPEN HOLE Halliburton District LAMAR

Tester DON NOLAND Witness W. SMITH

Drilling Contractor MURFIN DRILLING COMPANY SM S

EQUIPMENT & HOLE DATA

Formation Tested Upper Morrow
Elevation 4074' Ft.
Net Productive Interval 20' Ft.
All Depths Measured From Kelly bushing
Total Depth 4890' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 478' I.D. 2.75"
Drill Pipe Length 4352' I.D. 3.826"
Packer Depth(s) 4863-4869' Ft.
Depth Tester Valve 4846' Ft.

TYPE AMOUNT
Cushion TYPE AMOUNT
Ft. Depth Back Surface Bottom
Pres. Valve Choke Choke
3/4" 3/4"

Recovered 4796 Feet of gas in pipe

Recovered 50 Feet of gas cut rotary mud

Recovered Feet of

Recovered Feet of

Recovered Feet of

Remarks SEE PRODUCTION TEST DATA SHEET

TEMPERATURE		Gauge No. 540	Gauge No. 513	Gauge No.	TIME	
Depth:		4851 Ft.	4886 Ft.	Depth:	Ft.	
12 Hour Clock		12 Hour Clock		Hour Clock		Tool
Est. ° F.		Blanked Off NO		Blanked Off yes		Opened 10:48 A.M.
Actual 4885 ° F.		Blanked Off		Blanked Off		Opened XXXX
Actual 123 ° F.		Pressures		Pressures		Bypass 13:43 P.M.
		Field	Office	Field	Office	Reported
Initial Hydrostatic		2315	2348	2333		Minutes
First Period	Flow Initial	67	75	86		Minutes
	Flow Final	62	83	75		
	Closed in	1121	1133	1123		30 30
Second Period	Flow Initial	85	83	95		60 61
	Flow Final	56	75	70		
	Closed in	1112	1133	1117		25 25
Third Period	Flow Initial					60 59
	Flow Final					
	Closed in					
Final Hydrostatic		2285	2340	2305		

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

[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"	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	.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.

SPECIAL PRESSURE DATA

LITTLE'S

	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

123°

10° each circle

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_{ot}	= 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.