

L. TILLEY

Lease Name

1

Well No.

1

Test No.

WALTERS DRILLING CO.

Lease Owner/Company Name

WICHITA

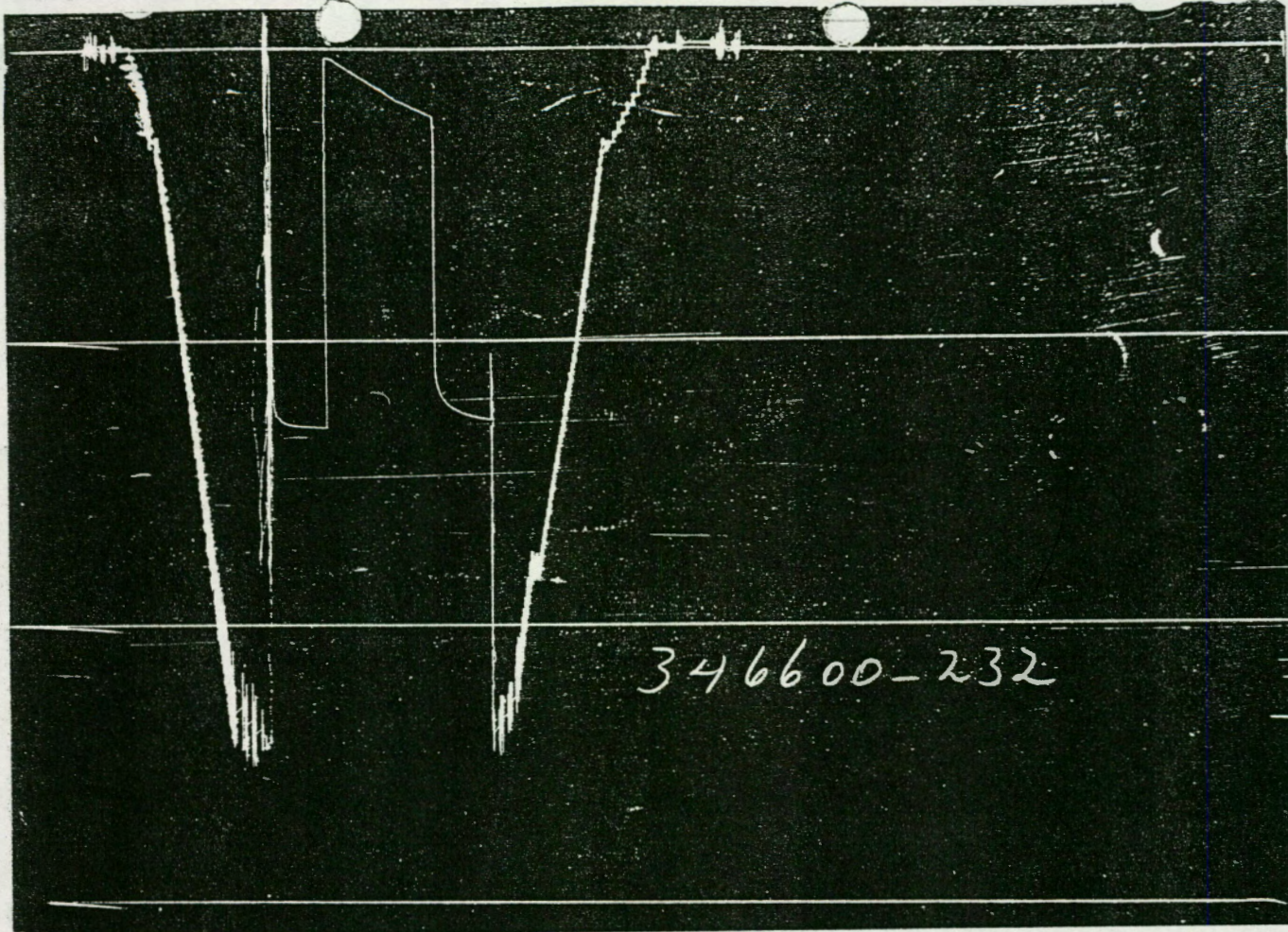
Owner's District



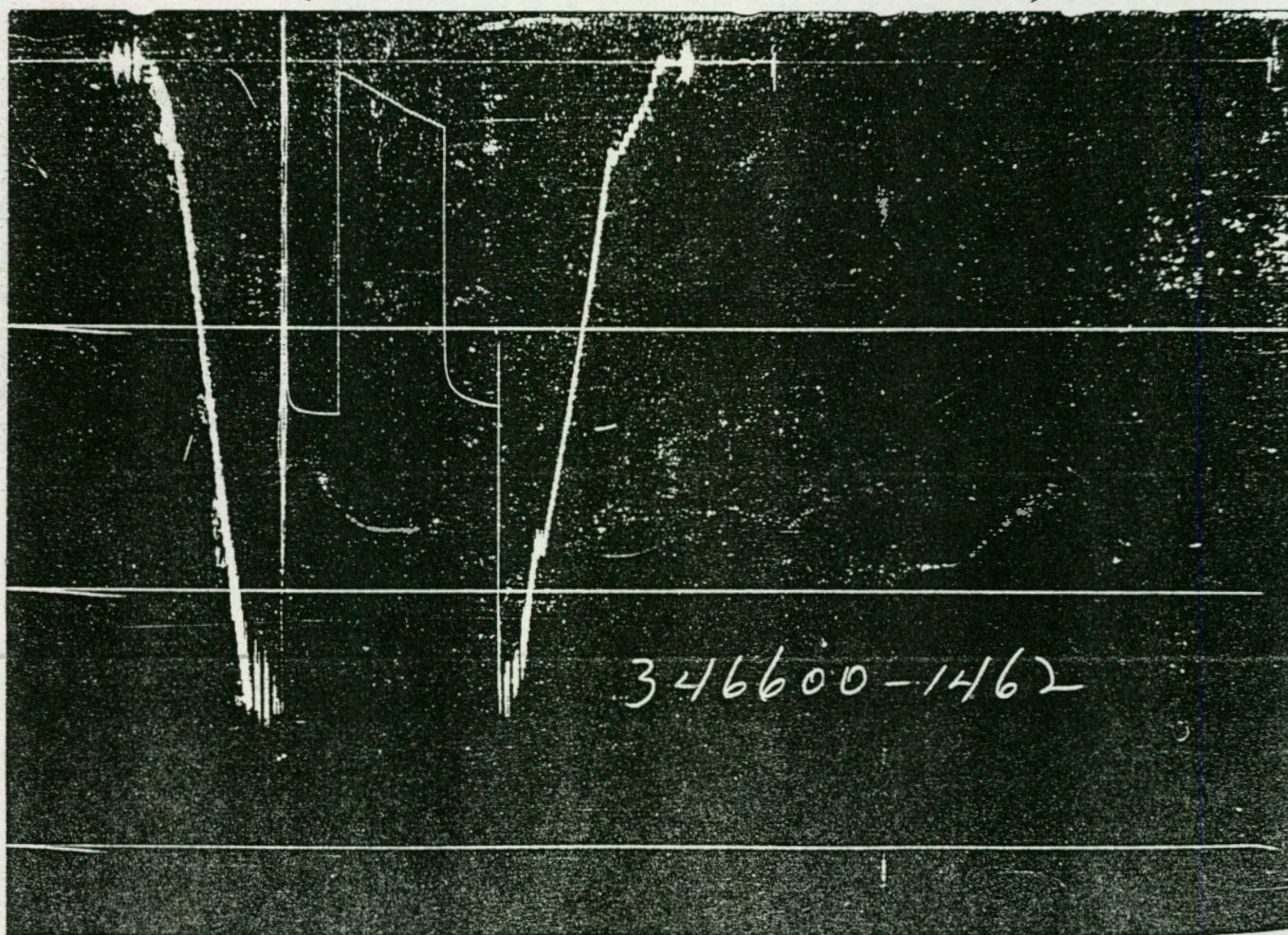
Your.....

Formation Testing Service Report

↑
PRESSURE
↓



← TIME →



Each horizontal line equals 1000 p.s.i.

Flow Time	1st 2 Min.	2nd 60 Min.	Date	7-20-62	Ticket Number	346600 - S
Closed In Press. Time	1st 30 Min.	2nd 30 Min.	Kind of Job	D.S.T.	Halliburton District	HAYS, KANSAS
Pressure Readings	Field	Office Corrected	Tester	DUB SELLERS	Witness	FRED JAMES
Depth Top Gauge	4458 Ft.	No Blanked Off	Drilling Contractor	COMPANY TOOLS		
BT. P.R.D. No.	232	12 Hour Clock	Elevation	2493 D.F.	Top Packer	4465'
Initial Hydro Mud Pressure		2419	Total Depth	4473'	Bottom Packer	-
Initial Closed in Pres.		1303	Interval Tested	8'	Formation Tested	MISS.
Initial Flow Pres.	1 23	2 34	Casing or Hole Size	7 7/8"	Casing Perfs. { Top Bot.	
Final Flow Pres.	1 24	2 232	Surface Choke	1/4"	Bottom Choke	5/8"
Final Closed in Pres.		1276	Size & Kind Drill Pipe	4 1/2" F.H. 2.7641 D. 720' Flex. Wt.	Drill Collars Above Tester	None
Final Hydro Mud Pressure		2382	Mud Weight	10 ¹	Mud Viscosity	40
Depth Cen. Gauge		Blanked Off	Temperature	100 °F Est. 112 °F Actual	Anchor Size & Length	ID 3.84 OD 5" X 8'
BT. P.R.D. No.		Hour Clock	Depths Mea. From	D.F.	Depth of Tester Valve	4454' Ft.
Initial Hydro Mud Pres.			TYPE AMOUNT		Depth Back Pres. Valve	4450' Ft.
Initial Closed in Pres.			Cushion	None		
Initial Flow Pres.	1		Recovered	200' Feet of	Gas	
Final Flow Pres.	2		Recovered	320' Feet of	Clean and slightly muddy oil	
Final Closed in Pres.	1		Recovered	300' Feet of	Muddy oil	
Final Hydro Mud Pres.			Recovered			
Depth Bot. Gauge	4469 Ft.	Yes Blanked Off	Gas Gravity		Surface Pressure	psi
BT. P.R.D. No.	1462	12 Hour Clock	Tool Opened	7:45-8:17 AM A.M. P.M.	Tool Closed	7:47-9:17 AM A.M. P.M.
Initial Hydro Mud Pres.	2435	2410	Remarks	Fair Blow through test		
Initial Closed in Pres.	1300	1323				
Initial Flow Pres.	40	1 57 2 51				
Final Flow Pres.	235	1 59 2 246				
Final Closed in Pres.	1285	1294				
Final Hydro Mud Pres.	2430	2408				

FORMATION TEST DATA

SPECIAL PRESSURE DATA

EXTRAPOLATED PRESSURE GRAPH

INTERPRETATIONS

Legal Location Sec. - Twp. - Rng.

C-SW-SE- 8-17-24

Field Area

Wildcat

County

NESS

State

KANSAS

Lease Owner/Company Name

Owner's District

5

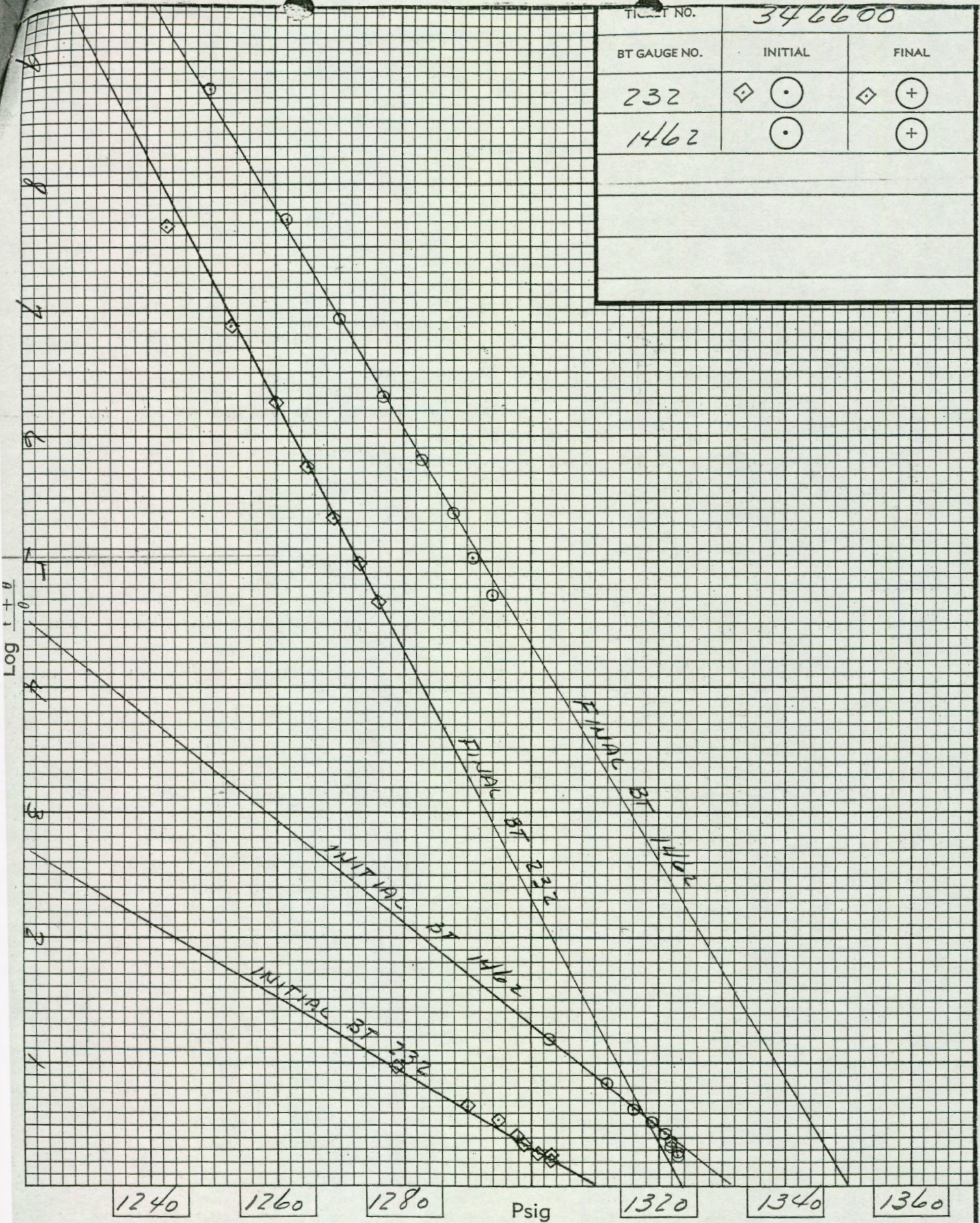
Gauge No. 232			Depth 4458'			Clock 12 hour		Ticket No. 346600		
First Flow Period			Initial Closed In Pressure			Second Flow Period		Final Closed In Pressure		
Time Defl. .000"	PSIG Temp. Corr.		Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.
P ₀	.000	23	.000		24	.000	34	.000		232
P ₁	.011	24	.0223	.174	1251	.1035	82	.0219	.212	1170
P ₂			.0446	.096	1279	.2070	135	.0438	.119	1208
P ₃			.0669	.066	1290	.3105	186	.0657	.083	1229
P ₄			.0892	.050	1295	.4140	232	.0876	.064	1243
P ₅			.1115	.041	1298			.1095	.052	1253
P ₆			.1338	.034	1299			.1314	.043	1260
P ₇			.1561	.029	1300			.1533	.037	1265
P ₈			.1784	.026	1301			.1752	.033	1269
P ₉			.2007	.023	1303			.1971	.029	1273
P ₁₀			.2230	.021	1303			.2190	.026	1276

Gauge No. 1462			Depth 4469'			Clock 12 hour				
P ₀	.000	57	.000		59	.000	51	.000		246
P ₁	.013	59	.0206	1.309	1278	.100	91	.021	1.315	1195
P ₂			.0412	1.029	1303	.200	146	.042	1.035	1232
P ₃			.0618	.873	1312	.300	198	.063	.878	1250
P ₄			.0824	.767	1316	.400	246	.084	.772	1262
P ₅			.1030	.688	1319			.105	.693	1270
P ₆			.1236	.627	1321			.126	.631	1277
P ₇			.1442	.577	1322			.147	.581	1283
P ₈			.1648	.535	1322			.168	.539	1288
P ₉			.1854	.499	1323			.189	.503	1291
P ₁₀			.2060	.468	1323			.210	.472	1294
Reading Interval			3			15		3 Minutes		

REMARKS:

SPECIAL PRESSURE DATA
EXTRAPOLATED PRESSURE GRAPH
INTERPRETATIONS AND CALCULATIONS

TICKET NO.	346600	
BT GAUGE NO.	INITIAL	FINAL
232	◊ ○	◊ ⊕
1462	○	⊕



EXTRAPOLATED PRESSURE GRAPH

Liquid Production

B.T. Gauge Numbers			232	1462	Ticket Number		346600		
Initial Hydrostatic			PRESSURE	PRESSURE	Elevation		2493	ft.	
			2419	2410					
Final Hydrostatic			2382	2408	Indicated Production	1st Flow	29.3	bbls. day	
1st Flow	Initial	Time -----	23	57		Total Flow	106.6	bbls. day	
	Final	2	24	59	Drill Collar Length		720	ft.	
Initial Closed In Pressure			30	1303	1323	Drill Collar I.D.		2.76	in.
2nd Flow	Initial	-----	34	51	Drill Pipe Factor		.0142	bbls. ft.	
	Final	60	232	246	Hole Size		7.875	in.	
Final Closed In Pressure			30	1276	1294	Footage Tested		8	ft.
Extrapolated Static Pressure			Initial	1310	1332	Mud Weight		10.1	lbs. gal.
			Final	1324	1350	Viscosity, Oil or Water		.364	cp
Slope psi/cycle P10			Initial	980	1087	Oil API Gravity		36	—
			Final	1222	1236	Water Specific Gravity			

Remarks:

SUMMARY

		Gauge No. 232/4458 ¹		Gauge No. 1462/4469 ¹		
		Depth		Depth		
Product	Equation	Initial	Final	Initial	Final	Units
Production	$Q = \frac{1440 R}{t}$	14.6	96.6	29.3	106.6	bbls. day
Transmissability	$\frac{Kh}{\mu} = \frac{162.6 Q}{m}$	7.2	153.9	19.4	151.9	md. ft. cp
Indicated Flow Capacity	$Kh = \frac{Kh}{\mu} \mu$	28.8	616.0	77.7	607.9	md. ft.
Average Effective Permeability	$K = \frac{Kh}{h}$					md.
	$K_i = \frac{Kh}{h_i}$	3.6	77.0	9.7	76.0	md.
Damage Ratio	$DR = .183 \frac{P_s - P_f}{m}$	0.7	2.0	1.0	1.8	—
Theoretical Potential w/Damage Removed	$Q_1 = Q DR$	14.6	189.3	29.3	188.8	bbls. day
Approx. Radius of Investigation	$b \approx \sqrt{Kt}$ or $\sqrt{Kt_0}$	2.7	69.1	4.4	68.6	ft.
	$b_1 \approx \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$					ft.
Potentiometric Surface *	$Pot. = EI - GD + 2.319 P_s$	3052.9	3085.4	3092.9	3134.7	ft.

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.

Waters Well Co. Inc. 1989
Jelly #1

41 $\frac{7}{8}$ rods.
118 $\frac{3}{4}$ " " 2 $\frac{1}{2}$

95 gts 2973.51

5 $\frac{1}{2}$ Casing

Set weight down
on tool and rotate
to right 5 to 8 turns
Release anchor

Baker tubing anchor
Catcher
2' Sub.

4' Spray Plunger
New Plunger July 5

8' Pump Barrel

3' Sub. "
Seating "

This is a skimming
operation with perforations
1476' above casing bottom

3' Perfor. Nipple

3 gts tail Pipe 92.23

NOT TO SCALE

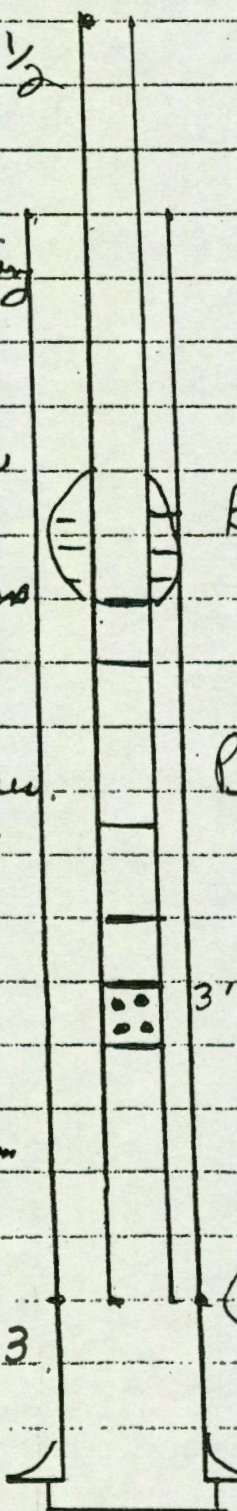
T-D 4473

(Overall 3018.74 tubing
threads on

MISSISSIPPIAN
4464
(-1969)

5 $\frac{1}{2}$ " 4465^S W. 1253AK
OPEN HOLE COMPLETION

4473 TD



(DON)

RHW
8-29-91

TILLEY No 1

1962

8-17s-24W
C SW/4 SE/4
NESS County

8 5/8" @ 148' w. 100 say

Elev. 2491 Ground
2495 KB = Zero point

5 1/2" @ 4465 1/2 w 125 say
7-20-62

TO 4473

Fort Scott 4358-1863
Miss. 4464-1969
Producing Formation.

Pipe is 7 1/2" O.B.
OPEN HOLE COMPLETION

FLUID LEVEL TEST Oct 1990 (Pumpin hole since 7-15-89)

95 joints 2 7/8" tubing 2973.5 = average, 31' 3" threads off.

89 5/8 joints to fluid while pumping 15 SPM 54" stroke
2 1/2" x 2 1/4" tubing pump
or 167 7/8 ft. FIH

Pumping 289 BFPD B64 BD + 279 BW

NOTE This is a SKIMMING OPERATION with

Open hole at 4465.5 (base of 5 1/2" csg)
Perforations at <2982.5>

1483.1' O.B.
+ 167' FIH above pnts

SKIMMING with 1650' FIH while pumping

PRODUCTION No 1 Tilley 1962-1990 125,505 BD

Lilley #1
12-50-1973

95 jts = 2973.51' (6/3/77)
77
84 jts 2 7/8

~~2606.22~~
2941.66'

1/15/74 added 10 jts to the

Seating nipple
2629.32

41 3/8 (6/3/77) = 1025' 3/4"

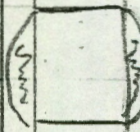
40 - 7/8 rods

64 - 3/4 rods. 1925' 3/4"

2950' rods 6/3/77

Added these 13 rods
Total
1/15/74 2925'

Set weight down on tool and
rotate to right 5 to 8 turns
retract slips =



Set slips
Tubing to left line to
Baker tubing anchor
Catcher

Sub 3' 2 7/8"
2 1/2" x 2 1/4" x 12 x 15' x 18'

3 Sub 2 7/8"
Seating nipple
Perforations nipple

Total Tubing tool Pipe
2721.65

3 jts tail Pipe 92.33

Plum Note: 1/15/74
DEC 10 1973 Added 10 jts to the
13 rods
to raise well.

T. D 4473

Jilley #1

Waters Drilly Co. Inc.

1981 - November 9 -

95 gts 2973.51

41 $\frac{7}{8}$ rods.

118 $\frac{3}{4}$ " "

Set Weight down on

tool and rotate to right

5 to 8 turns Release anchor

4 Sprayed Plungers

New Pump 11-9-81



Paper tubing anchor catcher

3 Sub.

$2\frac{1}{2} \times 2\frac{1}{4} \times 12$

3 Sub.

Seating nipple

Perub nipple

3 gts tail Pipe 92.23

T-D 4473