

THOMPSON

8

1

3318' - 3367'

ENERGY RESERVES GROUP, INCORPORATED

Lease Owner/Company Name

Well No. Test No.

Tested Interval

364984

OBERLIN

12-10-81

7319 - 7318 - TEMP.

Ticket Number

Camp

Date

Gauge Number(s)



TICKET NO. 364984 DATE 12-10-81 HALLIBURTON CAMP OBERLIN
LEASE OWNER ENERGY RESERVES GROUP, INCORPORATED DR/ic
LEASE NAME THOMPSON WELL NO. 8 TEST NO. 1
LEGAL LOCATION SEC. 6 - 9S - 18W FORMATION TESTED KANSAS CITY "G" ZONE
FIELD AREA - COUNTY ROOKS STATE KANSAS
TYPE OF D.S.T. OPEN HOLE
TESTER(S) B. KARLS B. POPE
WITNESS GERALD B. WEHRLI DRILLING CONTRACTOR EMPHASIS OIL OPERATIONS
DEPTHS MEASURED FROM KELLY BUSHING CASING PERFS (FT.)
TYPE AND SIZE OF GAS MEASURING DEVICE

CUSHION DATA

TYPE _____ AMOUNT _____ WEIGHT (lb./gal.) _____
TYPE _____ AMOUNT _____ WEIGHT (lb./gal.) _____

RECOVERY (ft. or bbl.):

1805' SALTWATER

FLUID PROPERTIES

SOURCE	RESISTIVITY	CHLORIDES (PPM)	SOURCE	RESISTIVITY	CHLORIDES (PPM)
MUD REPORT	@ °F	16,000		@ °F	
	@ °F			@ °F	
	@ °F			@ °F	

REMARKS:

SEE PRODUCTION TEST DATA SHEET.

TICKET NO. 364984 DATE 12-10-81 ELEVATION (FT.) -

TOP OF TESTED INTERVAL (ft.) 3318' BOTTOM OF TESTED INTERVAL (ft.) 3367'

NET PAY (ft.) 8' TOTAL DEPTH (ft.) 3367'

HOLE OR CASING SIZE (in.) 8 5/8" MUD WEIGHT (lb./gal.) 9.5 VISCOSITY (sec.) 39

SURFACE CHOKE (in.) .25" BOTTOM CHOKE (in.) .75"

OIL GRAVITY - @ - °F GAS GRAVITY—ESTIMATED - ACTUAL -

SAMPLER DATA

PRESSURE (P.S.I.) - CUBIC FT. OF GAS -

C.C.'s OF OIL - C.C.'s OF WATER -

C.C.'s OF MUD - TOTAL LIQUID C.C.'s -

GAS/OIL RATIO (cu. ft. per bbl.)

FROM SAMPLER - OTHER -

TEMPERATURE (°F)

ESTIMATE -

ACTUAL 95

DEPTH (ft.) 3362'

H.T.-500 ☒ THERMOMETER ☐;
T.E. OR R.T.-7 ☐ OTHER ☐

SERIAL NO. 2028

RECORDER AND PRESSURE DATA

CHARTS READ BY - DATA APPROVED BY -

R E C O R D E R S	GAUGE NUMBER	7319	7318			TIMES (00:00-24:00 HRS.)	
	GAUGE TYPE	1	2			TOOL OPENED <u>08:20</u>	
	GAUGE DEPTH (ft.)	3311'	3364'			DATE <u>12-10-81</u>	
	CLOCK NUMBER	22392	22398			BYPASS OPENED <u>12:50</u>	
	CLOCK RANGE (HR.)	12	12			DATE <u>12-10-81</u>	
P R E S S U R E	INITIAL HYDROSTATIC	1705.6	1729.9			PERIOD	MINUTES
	INITIAL FLOW	57.2	87.9			XXX	XXX
	1st. FINAL FLOW	530.4	561.0			1st. FLOW	30.4
	CLOSED-IN	978.7	1002.8			1st. C.I.P.	59.7
	INITIAL FLOW	543.0	573.5			XXX	XXX
	2nd. FINAL FLOW	909.6	932.8			2nd. FLOW	59.8
	CLOSED-IN	981.5	1007.5			2nd. C.I.P.	120.1
	INITIAL FLOW					XXX	XXX
	3rd. FINAL FLOW					3rd. FLOW	
	CLOSED-IN					3rd. C.I.P.	
	FINAL HYDROSTATIC	1701.7	1726.6			XXX	XXX

Casing perms. _____ Bottom choke _____ Surf. temp _____ °F Ticket No. 364984
 Gas gravity _____ Oil gravity _____ GOR _____
 Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F
 INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

Date Time	a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
01:00						Called out.
04:00						On location-rig pulling drill pipe.
05:00						Drill pipe out of hole-stopped to put up wind break.
05:45						Picked up and made up tool.
06:45						Tool in table - ready to run.
06:55						Started in hole.
08:16						On bottom.
08:20						Opened tool with strong blow 6" down to bottom of bucket in 4 minutes.
08:50						Closed tool.
09:50						Opened tool with strong blow 4½" down to bottom of bucket in 8 minutes.
10:50						Closed tool.
12:50						Off bottom.
13:30						Reversed out.
14:50						Tool in table.
15:45						Tool laid down.
16:00						Read charts.
16:30						Job complete.

ENERGY RESERVES GROUP INCORPORATED
Lease Owner/Company Name

364984
Ticket Number

B.T. 7319

B.T. 7318

B.T. _____

Depth 3311'

Depth 3364'

Depth _____

Time (minutes)	Log $\frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time (minutes)	Log $\frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time (minutes)	Log $\frac{t + \theta}{\theta}$	PSIG Temp. Corr.
First Flow...			First Flow...					
0		57.2	0		87.9			
5		143.6	5		171.3			
10		237.4	10		269.7			
15		325.5	15		350.9			
20		403.1	20		430.2			
25		471.7	25		501.1			
30.4		530.4	30.4		561.0			
Initial CIP...			Initial CIP...					
0		530.4	0		561.0			
1		898.4	1		916.2			
2		914.0	2		937.7			
3		924.0	3		947.2			
4		931.2	4		954.9			
5		935.7	5		960.5			
6		940.4	6		964.3			
7		943.7	7		967.5			
8		946.5	8		970.6			
9		949.5	9		973.2			
10		950.9	10		975.7			
15		958.2	15		982.8			
20		962.9	20		987.6			
25		967.2	25		991.4			
30		969.9	30		994.1			
40		974.0	40		997.9			
50		976.8	50		1001.1			
59.7		978.7	59.7		1002.8			
Second Flow...			Second Flow...					
0		543.0	0		573.5			
10		646.9	10		672.3			
20		731.5	20		754.7			
30		797.2	30		819.3			
40		846.2	40		868.9			
50		881.6	50		905.0			
59.8		909.6	59.8		932.8			
Second CIP...			Second CIP...					
0		909.6	0		932.0			
1		951.1	1		975.1			
2		955.3	2		979.4			
3		957.0	3		982.0			
4		959.2	4		983.9			

Remarks: _____

Lease Owner/Company Name

Ticket Number

B.T. _____

Depth _____

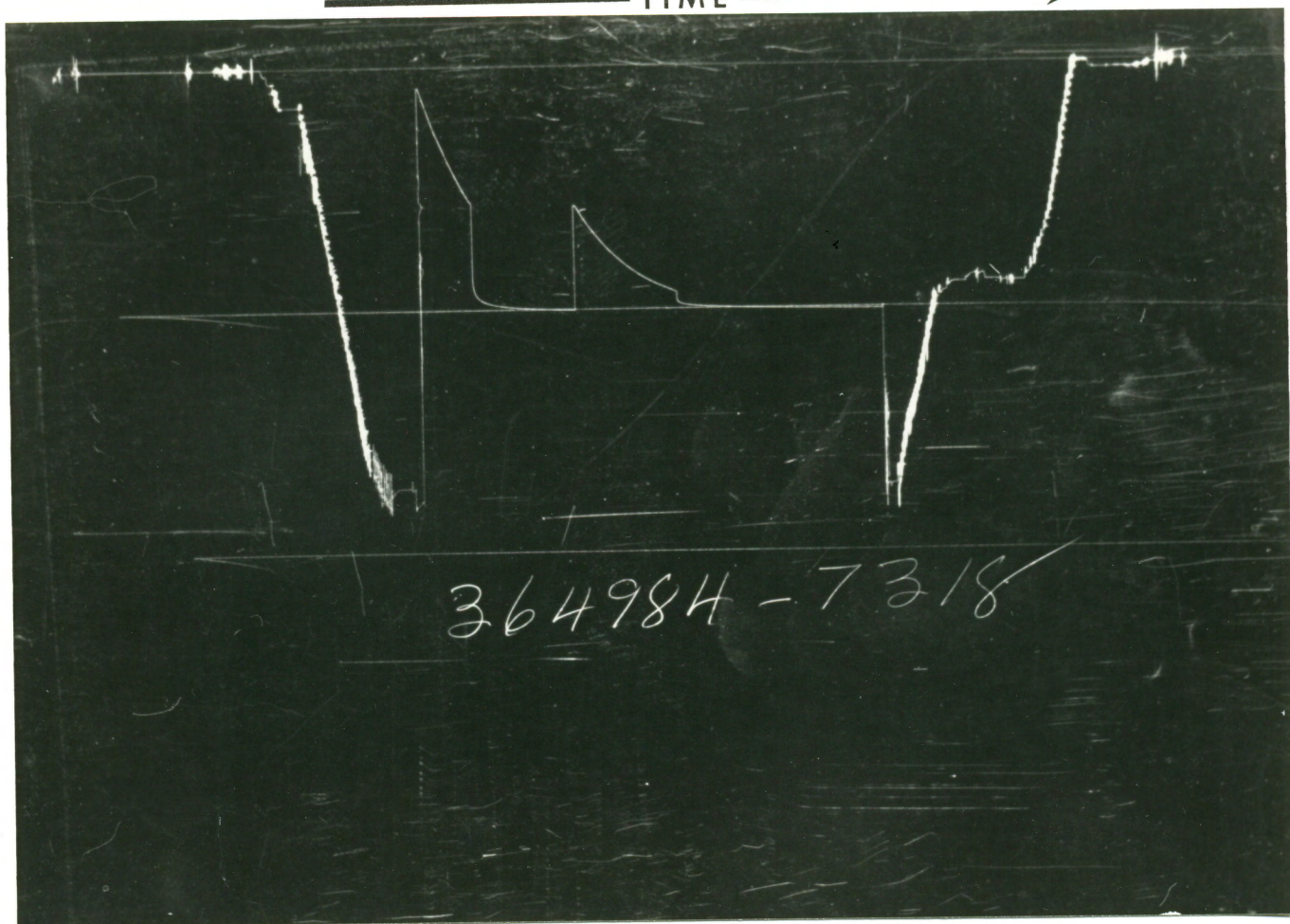
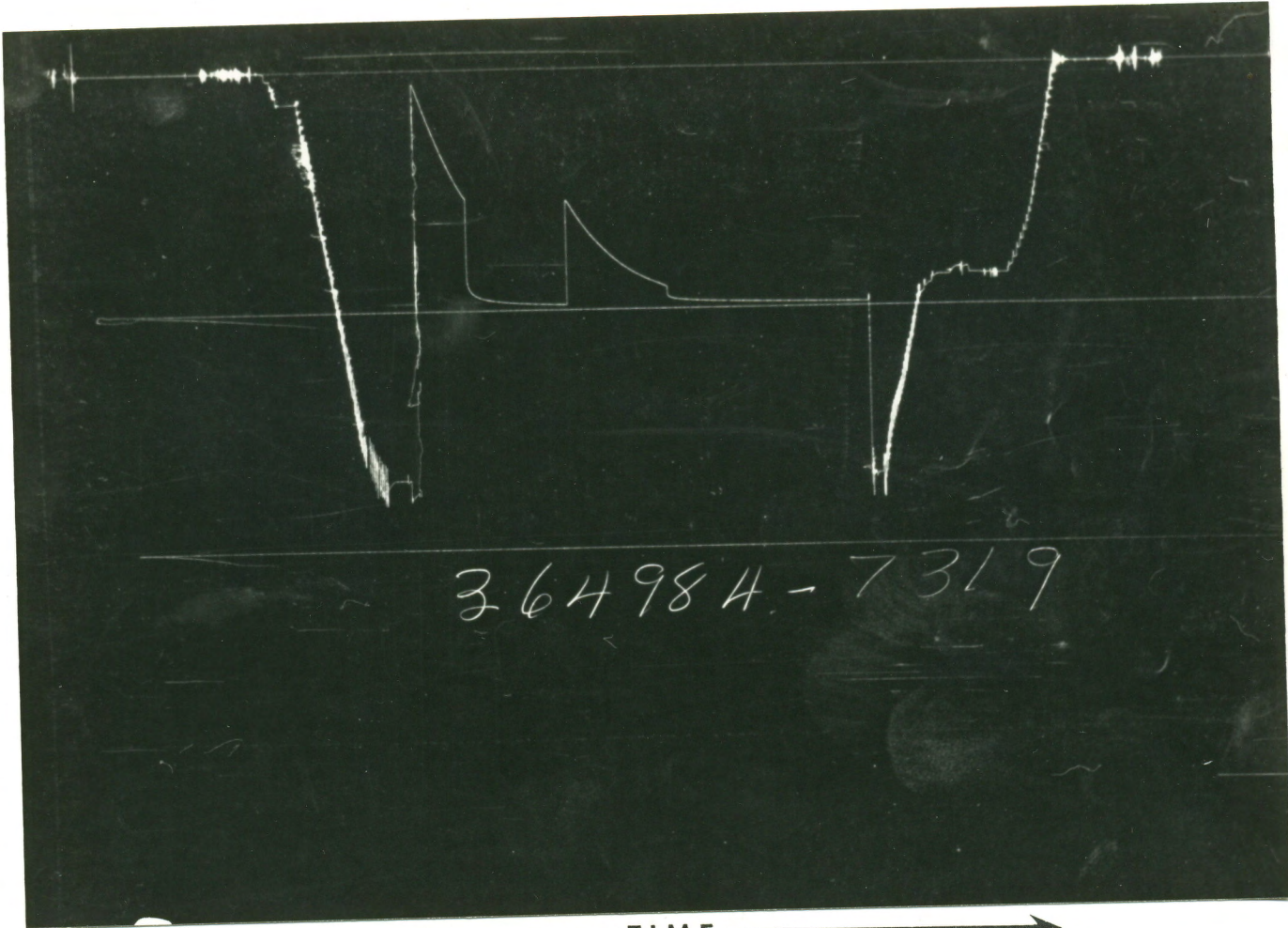
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Remarks:

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Tool Description	O.D.	I.D.	Length	Depth
Drill Pipe	4.50"	3.826"	3273'	
Reversing Sub	5.75"	2.75"	1'	3240'
Drill Pipe	4.50"	3.826"	62'	
Dual CIP Valve	5.00"	.87"	6'	
Hydrospring Tester	5.00"	.75"	5'	3309'
AP Running Case	5.00"	2.25"	4'	3311'
Packer	6.75"	1.53"	6'	3318'
Flush Joint Anchor	5.00"	2.37"	41'	
HT-500 Temp. Case	5.00"	2.25"	2'	3361'
Blanked Off BT Case	5.00"	2.44"	4'	3364'
TOTAL DEPTH				3367'

PRESSURE



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

TEMPERATURE
RECORDER
CHART



10° each circle

THOMPSON	8	2	3480' - 3497'	ENERGY RESERVES GROUP, INCORPORATED
Lease Name	Well No.	Test No.	Tested Interval	Lease Owner/Company Name
364985		OBERLIN	12-11-81	7319 - 7318 - TEMP.
Ticket Number	Camp		Date	Gauge Number(s)

Arb Top

u



TICKET NO. 364985 DATE 12-11-81 HALLIBURTON CAMP OBERLIN
LEASE OWNER ENERGY RESERVES GROUP, INCORPORATED BM/ic
LEASE NAME THOMPSON WELL NO. 8 TEST NO. 2
LEGAL LOCATION SEC. 6 - 9S - 18W FORMATION TESTED -
FIELD AREA - COUNTY ROOKS STATE KANSAS
TYPE OF D.S.T. OPEN HOLE
TESTER(S) B. KARLS - B. POPE
WITNESS GERALD B. WEHRLI DRILLING CONTRACTOR EMPHASIS OIL OPERATIONS
DEPTHS MEASURED FROM KELLY BUSHING CASING PERFS (FT.)
TYPE AND SIZE OF GAS MEASURING DEVICE

CUSHION DATA

TYPE FRESH WATER AMOUNT 1000' WEIGHT (lb./gal.) 8.33
TYPE AMOUNT WEIGHT (lb./gal.)

RECOVERY (ft. or bbl.):

1000' WATER

8' FREE OIL

8% MUD, 20% WATER, 72% FREE OIL

FLUID PROPERTIES

SOURCE	RESISTIVITY	CHLORIDES (PPM)	SOURCE	RESISTIVITY	CHLORIDES (PPM)
MUD REPORT	@ °F	20,000		@ °F	
	@ °F			@ °F	
	@ °F			@ °F	

REMARKS: CHARTS INDICATE PARTIAL PLUGGING OF ANCHOR PERFORATIONS
DURING THE SECOND FLOW PERIOD.
SEE PRODUCTION TEST DATA SHEET.

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TICKET NO. 364985 DATE 12-11-81 ELEVATION (FT.) 2078' KB
 TOP OF TESTED INTERVAL (ft.) 3480' BOTTOM OF TESTED INTERVAL (ft.) 3497'
 NET PAY (ft.) 6' TOTAL DEPTH (ft.) 3497'
 HOLE OR CASING SIZE (in.) 8 5/8" MUD WEIGHT (lb./gal.) 10.2 VISCOSITY (sec.) 50
 SURFACE CHOKE (in.) .25" BOTTOM CHOKE (in.) .75"
 OIL GRAVITY _____ @ _____ °F GAS GRAVITY—ESTIMATED _____ ACTUAL _____

SAMPLER DATA

PRESSURE (P.S.I.) _____ CUBIC FT. OF GAS _____
 C.C.'s OF OIL _____ C.C.'s OF WATER _____
 C.C.'s OF MUD _____ TOTAL LIQUID C.C.'s _____

GAS/OIL RATIO (cu. ft. per bbl.)

FROM SAMPLER _____ OTHER _____

TEMPERATURE (°F)

ESTIMATE _____
 ACTUAL 95
 DEPTH (ft.) 3492'
 H.T.-500 ☒; THERMOMETER ☐;
 T.E. OR R.T.-7 ☐; OTHER ☐
 SERIAL NO. 2028

RECORDER AND PRESSURE DATA

CHARTS READ BY _____ DATA APPROVED BY _____

RECORDERS		GAUGE NUMBER		TIMES (00:00-24:00 HRS.)	
		7319	7318		
GAUGE TYPE		1	2	TOOL OPENED <u>13:06</u>	
GAUGE DEPTH (ft.)		3473	3494'	DATE <u>12-11</u>	
CLOCK NUMBER		22398	22392	BYPASS OPENED <u>17:36</u>	
CLOCK RANGE (HR.)		12	12	DATE <u>12-11</u>	
INITIAL HYDROSTATIC		1817.8	1823.9	PERIOD	MINUTES
INITIAL FLOW		423.5	434.3	XXX	XXX
P	1st. FINAL FLOW	422.1	441.6	1st. FLOW	29.3
	CLOSED-IN	1082.2	1088.3	1st. C.I.P.	60.7
R	INITIAL FLOW	424.2	448.4	XXX	XXX
	2nd. FINAL FLOW	424.2	517.8	2nd. FLOW	60.2
S	CLOSED-IN	1080.0	1090.9	2nd. C.I.P.	119.8
	INITIAL FLOW			XXX	XXX
U	3rd. FINAL FLOW			3rd. FLOW	
	CLOSED-IN			3rd. C.I.P.	
FINAL HYDROSTATIC		1806.5	1819.0	XXX	XXX

Casing perms. _____ Bottom choke _____ Surf. temp. _____ °F Ticket No. 364985
 Gas gravity _____ Oil gravity _____ GOR _____
 Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F
 INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

Date Time	a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
09:30						Called out - ready at 11:00.
10:50						On location - rig waiting.
11:10						Picked up and made up tool.
11:25						Tool in table - ready to run.
11:30						In hole.
11:55						Rig stopped to pump 991' of water in
						drill pipe for water cushion.
12:23						Drill pipe full of water - back to
						bottom with tool..
13:03						On bottom.
13:06						Opened tool.
13:36						Closed tool.
14:36						Opened tool - no blow.
15:36						Closed tool.
17:36						Off bottom.
18:05						Rig stopped to fix slips.
18:25						Pulled tool.
19:40						Tool in table.
20:15						Tool laid down.
20:25						Charts read.
21:00						Job completed.

ENERGY RESERVES GROUP INCORPORATED
Lease Owner/Company Name

364985
Ticket Number

B.T. 7319

B.T. 7318

B.T. _____

Depth 3473'

Depth 3494'

Depth _____

Time (minutes)	Log $\frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time (minutes)	Log $\frac{t + \theta}{\theta}$	PSIG Temp. Corr.	Time (minutes)	Log $\frac{t + \theta}{\theta}$	PSIG Temp. Corr.
First Flow...			First Flow...					
0		423.5	0		434.3			
			5		433.6			
			10		433.6			
			15		434.2			
			20		437.7			
			25		438.4			
29.3		422.1	29.3		441.6			
Initial CIP...			Initial CIP...					
0		422.1	0		441.6			
4		839.1	4		848.5			
8		980.2	8		975.9			
12		1032.6	12		1031.1			
16		1055.6	16		1059.0			
20		1067.6	20		1072.1			
24		1073.1	24		1078.7			
28		1076.2	28		1081.7			
32		1078.0	32		1084.1			
36		1079.5	36		1085.8			
40		1080.3	40		1086.9			
44		1080.3	44		1087.4			
48		1081.1	48		1087.9			
52		1081.9	52		1088.3			
56		1081.9	56		1088.8			
60.7		1082.2	60.7		1088.3			
Second Flow...			Second Flow...					
0		424.2	0		448.4			
			10		438.2			
			20		438.7			
			30		437.0			
			40		450.7			
			50		495.5			
60.2		424.2	60.2		517.8			
Second CIP...			Second CIP...					
0		424.2	0		517.8			
8		976.1	8		986.8			
16		1051.2	16		1061.6			
24		1069.1	24		1077.7			
32		1074.4	32		1081.8			
40		1076.3	40		1083.9			
48		1077.3	48		1084.4			

Remarks: _____

364985.
Ticket Number

B.T. _____

Depth _____

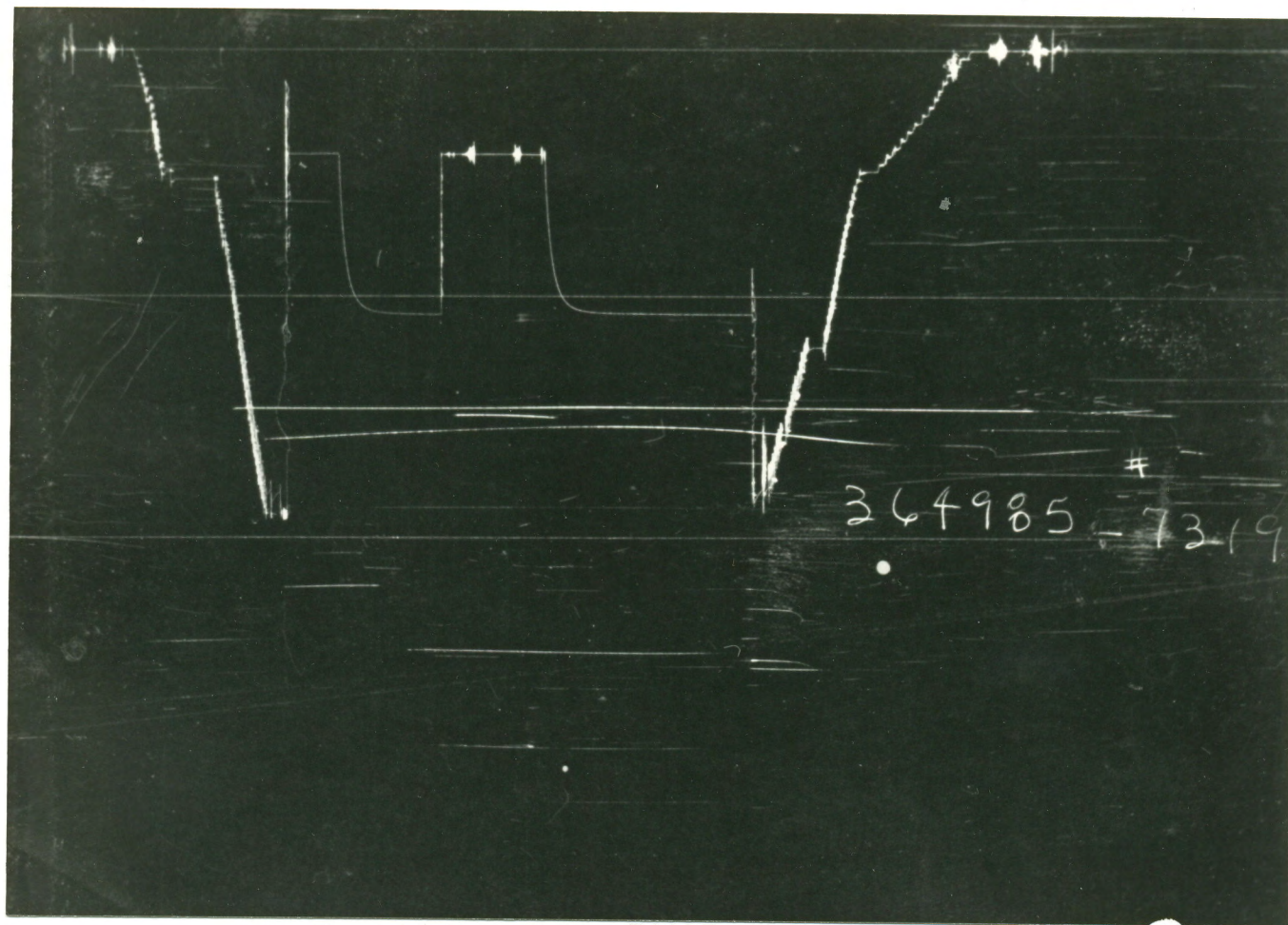
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Remarks: _____

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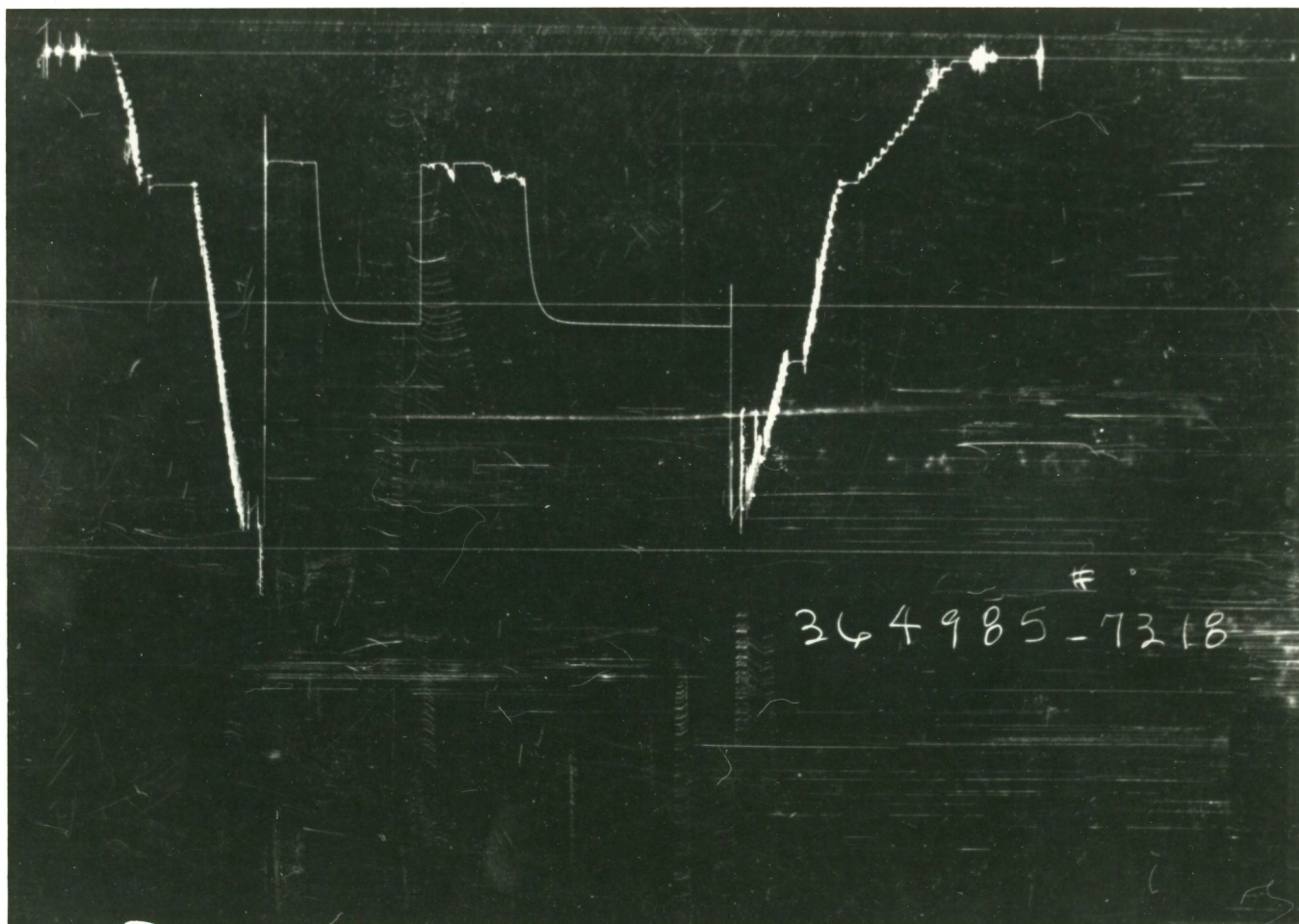
Tool Description	O.D.	I.D.	Length	Depth
Drill Pipe	4.50"	3.826"	3423'	
Reversing Sub	5.75"	2.75"	1'	3402'
Drill Pipe	4.50"	3.826"	62'	
Dual CIP Valve	5.00"	.87"	6'	
Hydrospring	5.00"	.75"	5'	3471'
AP Running Case	5.00"	2.25"	4'	3473'
Packer	6.75"	1.53"	6'	3480'
Flush Joint Anchor	5.00"	2.37"	9'	
HT-500 Temp. Case	5.00"	2.25"	2'	3492'
Blanked Off BT Case	5.00"	2.44"	4'	3494'
TOTAL DEPTH				3497'

↓
PRESSURE
↓



364985-7319

TIME →



364985-7318

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

TEMPERATURE
RECORDER
CHART



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_{oi}	= 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.