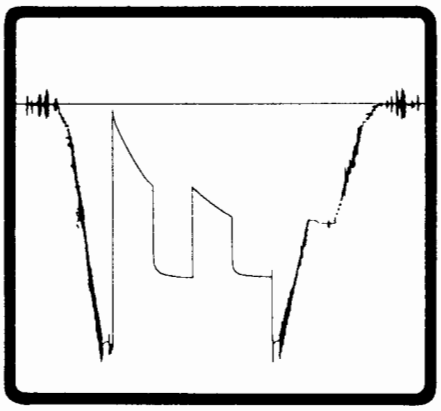
FORMATION TESTING SERVICE REPORT



WENZEL
LEASE NAME

1
WELL NO.

1
TEST NO.

1754.' - 1790.'
TESTED INTERVAL

GRUSS PETROLEUM MANAGEMENT, INCORPORATED
LEASE OWNER/COMPANY NAME

HALLIBURTON
SERVICES

Duncan, Oklahoma 73536

A Halliburton Company

96-R5 Ⓓ—Southwestern

NOMENCLATURE

B	=	Formation Volume Factor (Res Vol / Std Vol)	——
c_t	=	System Total Compressibility	(Vol / Vol) / psi
DR	=	Damage Ratio	——
h	=	Estimated Net Pay Thickness	Ft
k	=	Permeability	md
m	=	(Liquid) Slope Extrapolated Pressure Plot	psi/cycle
		(Gas) Slope Extrapolated m(P) Plot	MM psi^2/ cp/cycle
$m(P^*)$	=	Real Gas Potential at P^*	MM psi^2/cp
$m(P_f)$	=	Real Gas Potential at P_f	MM psi^2/cp
AOF_1	=	Maximum Indicated Absolute Open Flow at Test Conditions	MCFD
AOF_2	=	Minimum Indicated Absolute Open Flow at Test Conditions	MCFD
P^*	=	Extrapolated Static Pressure	Psig
P_f	=	Final Flow Pressure	Psig
Q	=	Liquid Production Rate During Test	BPD
Q_1	=	Theoretical Liquid Production w/ Damage Removed	BPD
Q_g	=	Measured Gas Production Rate	MCFD
r_i	=	Approximate Radius of Investigation	Ft
r_w	=	Radius of Well Bore	Ft
S	=	Skin Factor	
t	=	Total Flow Time Previous to Closed-in	Minutes
Δt	=	Closed-in Time at Data Point	Minutes
T	=	Temperature Rankine	°R
ϕ	=	Porosity	——
μ	=	Viscosity of Gas or Liquid	cp
Log	=	Common Log	

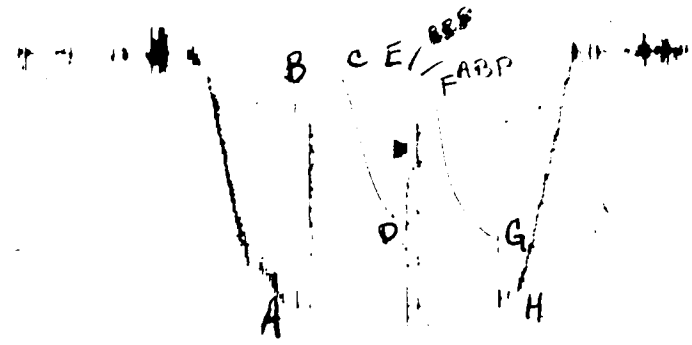
HALLIBURTON
SERVICES

TICKET NO. 99521100
24-JAN-85
PRATT

FORMATION TESTING SERVICE REPORT

LEGAL LOCATION SEC. - TWP. - RNG.	FIELD AREA	COUNTY	STATE
2-32S-10W		BARBER	KANSAS BG

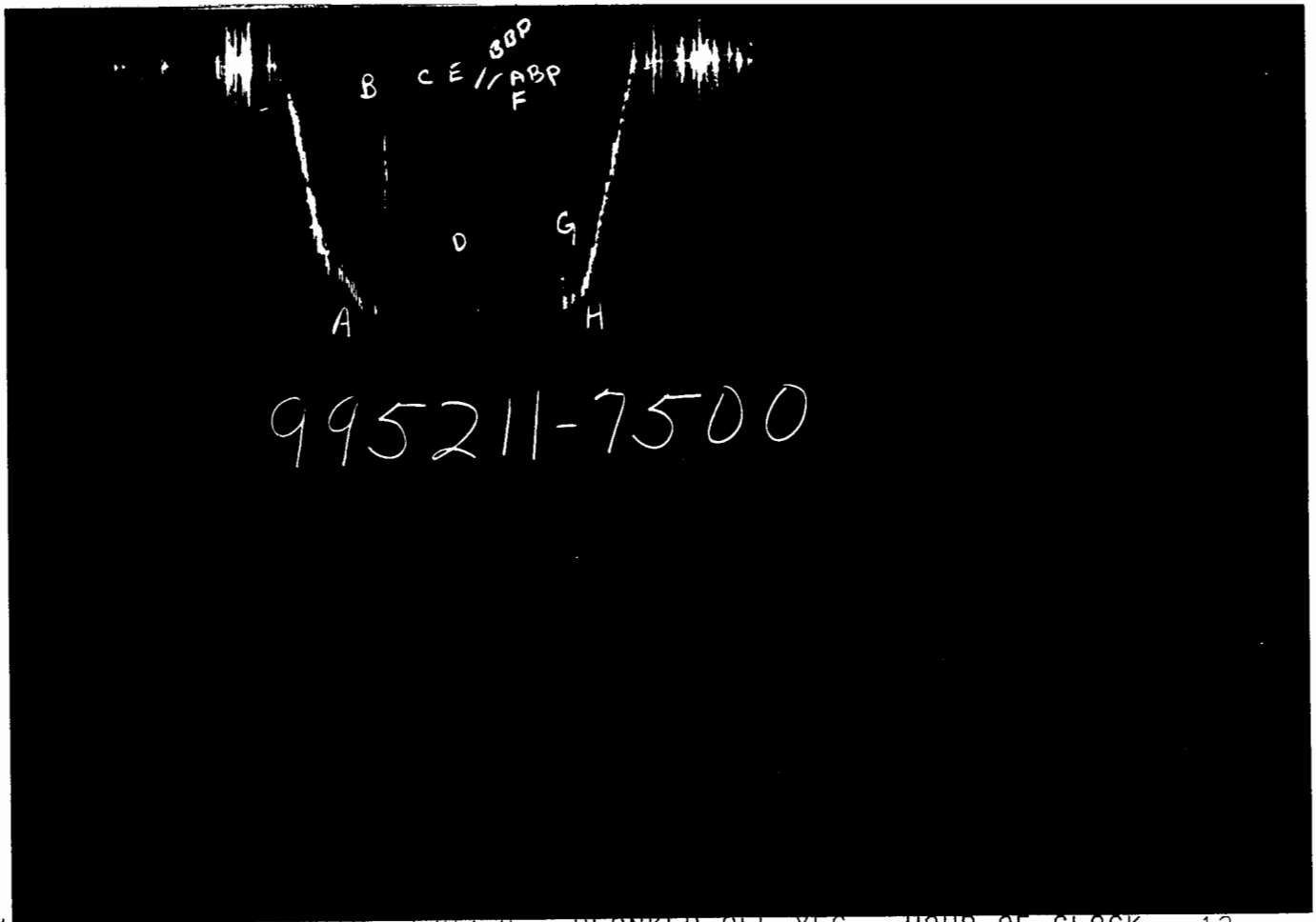
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
WENZEL	1	1	1754.' - 1790.'	GRUSS PETROLEUM MANAGEMENT, INCORPORATED



995211-7501

GAUGE NO: 7501 DEPTH: 1741.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		885.0			
B	INITIAL FIRST FLOW		43.4	15.0	15.4	F
C	FINAL FIRST FLOW		63.9			
C	INITIAL FIRST CLOSED-IN		63.9	30.0	28.7	C
D	FINAL FIRST CLOSED-IN		584.3			
E	INITIAL SECOND FLOW		68.3	20.0	20.9	F
F	FINAL SECOND FLOW		97.8			
F	INITIAL SECOND CLOSED-IN		97.8	30.0	34.3	C
G	FINAL SECOND CLOSED-IN		662.8			
H	FINAL HYDROSTATIC		864.0			



GAUGE NO: 7500 DEPTH: 1787.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	908	906.7			
B	INITIAL FIRST FLOW	59	58.3	15.0	15.4	F
C	FINAL FIRST FLOW	88	81.5			
C	INITIAL FIRST CLOSED-IN	88	81.5	30.0	28.7	C
D	FINAL FIRST CLOSED-IN	606	605.1			
E	INITIAL SECOND FLOW	88	81.5	20.0	20.9	F
F	FINAL SECOND FLOW	118	120.2			
F	INITIAL SECOND CLOSED-IN	118	120.2	30.0	34.3	C
G	FINAL SECOND CLOSED-IN	684	687.3			
H	FINAL HYDROSTATIC	899	885.9			

EQUIPMENT & HOLE DATA

FORMATION TESTED: CHASE
NET PAY (ft):
GROSS TESTED FOOTAGE: 36.0
ALL DEPTHS MEASURED FROM: KB
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 1525
TOTAL DEPTH (ft): 1790.0
PACKER DEPTH(S) (ft): 1748, 1754
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal):
MUD VISCOSITY (sec):
ESTIMATED HOLE TEMP. (°F): 90
ACTUAL HOLE TEMP. (°F): 78 @ 1785.0 ft

TICKET NUMBER: 99521100

DATE: 1-16-85 TEST NO: 1

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: PRATT

TESTER: CONDICT

WITNESS: FALWELL, GEOLOGIST

DRILLING CONTRACTOR: H-30 DRILLING COMPANY #5

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY		CHLORIDES
PIT	@ °F		66700 ppm
TOP	@ °F		89700 ppm
MIDDLE	@ °F		94300 ppm
BOTTOM	0.060 @ 76 °F		92000 ppm
	@ °F		ppm
	@ °F		ppm

SAMPLER DATA

Psig AT SURFACE:
cu.ft. OF GAS:
cc OF OIL:
cc OF WATER:
cc OF MUD:
TOTAL LIQUID cc:

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY: 0.650

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

220' OF MUDDY SALTWATER

MEASURED FROM TESTER VALVE

REMARKS:

1. BOTTOM S.G. = 1.107, PH = 6, FE = NEG., CA = 3300, MG = 418, SO4=HEAVY
2. NOTE: PIT SAMPLE WAS CAUGHT WHILE RUNNING PIPE BACK IN HOLE AFTER TEST. LACKED 5 STANDS OF BEING ON BOTTOM.
3. GRINDOUT #1 = 60% WATER & 40% MUD. GRINDOUT #2 = 60% WATER & 40% MUD. GRINDOUT #3 = 57% WATER & 43% MUD.
4. TIGHT HOLE.....

TYPE & SIZE MEASURING DEVICE: 2" MERLA ORIFICE WELL TESTER | TICKET NO: 99521100

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
1-16-85					
0140					CALLED OUT TO BE READY NOW
0315					ON LOCATION, RIG PULLING PIPE.
0330					STARTED CLOCKS
0420					PICKED UP AND MADE UP TOOL
0445					TOOL IN TABLE
0455					STARTED TOOL IN HOLE
0558					TOOL ON BOTTOM
0602					TOOL OPENED WITH A 1/4" BLOW
					THAT DIED IN 5 MINUTES
0617					CLOSED TOOL
0647					TOOL OPENED WITH A 3" BLOW THAT
					DIED IN ONE MINUTE
0654					FLUSHED TOOL WITH NO BLOW
0707					CLOSED TOOL
0737					OPENED BY-PASS, TOOL OFF BOTTOM.
0937					TOOL AT TABLE
0940					TOOL LAID DOWN.

TICKET NO: 99521100

CLOCK NO: 17481 HOUR: 12

HALLIBURTON SERVICES

GAUGE NO: 7501

DEPTH: 1741.0

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW				
B	1	0.0	43.4			
	2	3.0	46.0	2.7		
	3	6.0	51.6	5.6		
	4	9.0	56.9	5.4		
	5	12.0	60.4	3.5		
C	6	15.4	63.9	3.5		
		FIRST CLOSED-IN				
C	1	0.0	63.9			
	2	2.0	101.2	37.3	1.8	0.939
	3	4.0	139.5	75.6	3.2	0.684
	4	6.0	179.6	115.7	4.3	0.554
	5	8.0	222.6	158.7	5.2	0.468
	6	10.0	277.7	213.8	6.1	0.405
	7	12.0	336.2	272.4	6.7	0.359
	8	14.0	385.9	322.0	7.3	0.323
	9	16.0	427.5	363.6	7.9	0.293
	10	18.0	463.1	399.3	8.3	0.269
	11	20.0	494.2	430.3	8.7	0.248
	12	22.0	520.5	456.6	9.1	0.231
	13	24.0	542.9	479.0	9.4	0.215
	14	26.0	562.7	498.8	9.7	0.202
D	15	28.7	584.3	520.4	10.0	0.187
		SECOND FLOW				
E	1	0.0	68.3			
	2	4.0	72.8	4.5		
[1]	3	7.3	76.6	3.8		
[2]	4	12.5	93.3	16.8		
	5	16.0	93.3	0.0		
	6	20.0	95.7	2.4		
F	7	20.9	97.8	2.1		
		SECOND CLOSED-IN				
F	1	0.0	97.8			
	2	2.0	207.3	109.5	1.9	1.278
	3	4.0	303.4	205.6	3.6	1.008
	4	6.0	386.7	288.9	5.2	0.848
	5	8.0	440.1	342.3	6.5	0.744
	6	10.0	478.2	380.4	7.8	0.666
	7	12.0	509.3	411.5	9.0	0.606
	8	14.0	535.1	437.3	10.1	0.555
	9	16.0	555.2	457.4	11.1	0.514
	10	18.0	573.3	475.5	12.0	0.479
	11	20.0	587.9	490.1	12.9	0.450

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		SECOND CLOSED-IN - CONTINUED				
	12	22.0	601.9	504.1	13.7	0.423
	13	24.0	613.8	516.0	14.4	0.400
	14	26.0	625.5	527.7	15.2	0.380
	15	28.0	635.7	537.9	15.8	0.361
	16	30.0	645.5	547.7	16.4	0.344
	17	32.0	653.3	555.5	17.0	0.329
G	18	34.3	662.8	565.0	17.6	0.314

LEGEND:

[1] BEFORE BY-PASS [2] AFTER BY-PASS

REMARKS:

TICKET NO: 99521100

CLOCK NO: 17480 HOUR: 12

HALLIBURTON SERVICES

GAUGE NO: 7500

DEPTH: 1787.0

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW				
B	1	0.0	58.3			
	2	3.0	66.7	8.4		
	3	6.0	72.6	5.9		
	4	9.0	76.5	3.9		
	5	12.0	79.1	2.6		
C	6	15.4	81.5	2.3		
		FIRST CLOSED-IN				
C	1	0.0	81.5			
	2	2.0	111.3	29.8	1.8	0.942
	3	4.0	146.6	65.1	3.2	0.686
	4	6.0	189.5	108.0	4.3	0.552
	5	8.0	236.6	155.1	5.3	0.467
	6	10.0	290.4	208.9	6.1	0.404
	7	12.0	343.5	262.0	6.7	0.359
	8	14.0	392.8	311.3	7.3	0.323
	9	16.0	440.0	358.5	7.8	0.293
	10	18.0	480.5	399.0	8.3	0.268
	11	20.0	511.9	430.4	8.7	0.248
	12	22.0	538.8	457.3	9.1	0.231
	13	24.0	562.6	481.1	9.4	0.215
	14	26.0	583.0	501.5	9.7	0.202
D	15	28.7	605.1	523.6	10.0	0.187
		SECOND FLOW				
E	1	0.0	81.5			
	2	4.0	96.0	14.6		
[1]	3	7.3	101.6	5.6		
[2]	4	12.5	110.9	9.3		
	5	16.0	114.7	3.8		
	6	20.0	118.8	4.0		
F	7	20.9	120.2	1.5		
		SECOND CLOSED-IN				
F	1	0.0	120.2			
	2	2.0	219.8	99.5	1.9	1.282
	3	4.0	315.4	195.1	3.6	1.006
	4	6.0	397.2	277.0	5.1	0.850
	5	8.0	458.8	338.6	6.5	0.745
	6	10.0	500.2	380.0	7.8	0.665
	7	12.0	531.5	411.3	9.0	0.605
	8	14.0	557.3	437.0	10.1	0.556
	9	16.0	578.7	458.5	11.1	0.515
	10	18.0	595.8	475.5	12.0	0.479
	11	20.0	610.7	490.5	12.9	0.449

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		SECOND CLOSED-IN - CONTINUED				
	12	22.0	623.7	503.5	13.7	0.424
	13	24.0	636.2	516.0	14.5	0.400
	14	26.0	647.2	527.0	15.2	0.380
	15	28.0	658.3	538.1	15.8	0.361
	16	30.0	668.8	548.6	16.4	0.344
	17	32.0	677.6	557.4	17.0	0.329
G	18	34.3	687.3	567.1	17.6	0.314

LEGEND:

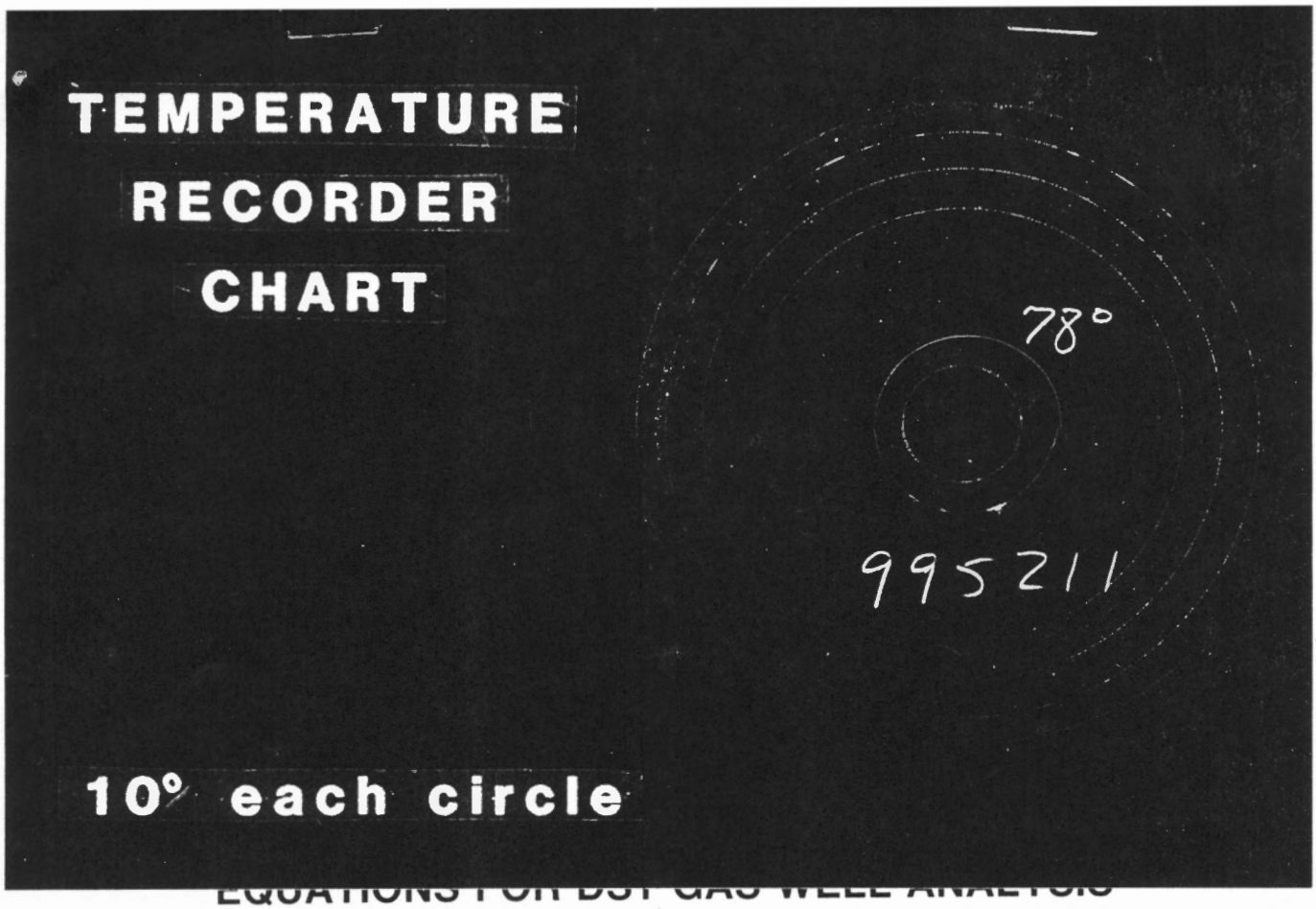
[1] BEFORE BY-PASS [2] AFTER BY-PASS

REMARKS:

TICKET NO. 99521100

		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE.....	4.500	3.826	1547.0	
3	DRILL COLLARS.....	6.250	2.250	60.0	
50	IMPACT REVERSING SUB.....	6.000	3.000	1.0	1608.0
3	DRILL COLLARS.....	6.250	2.250	120.0	
5	CROSSOVER.....	6.250	2.250	1.0	
12	DUAL CIP VALVE.....	5.875	0.870	6.0	
60	HYDROSPRING TESTER.....	5.000	0.750	5.0	1739.0
80	AP RUNNING CASE.....	5.000	3.060	4.0	1741.0
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	1748.0
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	1754.0
20	FLUSH JOINT ANCHOR.....	5.000	2.370	29.0	
83	HT-500 TEMPERATURE CASE.....	5.000		1.0	1785.0
81	BLANKED-OFF RUNNING CASE.....	5.000		4.0	1787.0
	TOTAL DEPTH				1790.0

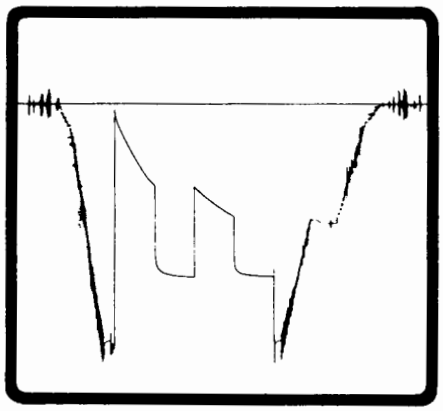
EQUIPMENT DATA



EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow Capacity	$kh = \frac{1637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG} \frac{k(t/60)}{\phi\ \mu\ c_t r_w^2} + 3.23 \right]$	—
Damage Ratio	$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87\ mS}$	—
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g\ m(P^*)}{m(P^*) - m(P_f)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g \sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032 \sqrt{\frac{k(t/60)}{\phi \mu c_t}}$	ft

FORMATION TESTING SERVICE REPORT



995212 3

PHOENIX PETROLEUM CORPORATION
ATTENTION: MIKE BRYAN & JOHN DUGAN
212 N. MARKET
SUITE 306
WICHITA, KANSAS 67202

HALLIBURTON SERVICES
Duncan, Oklahoma 73536
A Halliburton Company

WENZEL LEASE NAME | 1 WELL NO. | 2 TEST NO. | 3541.' - 3566.' TESTED INTERVAL | GRUSS PETROLEUM MANAGEMENT, INCORPORATED LEASE OWNER/COMPANY NAME

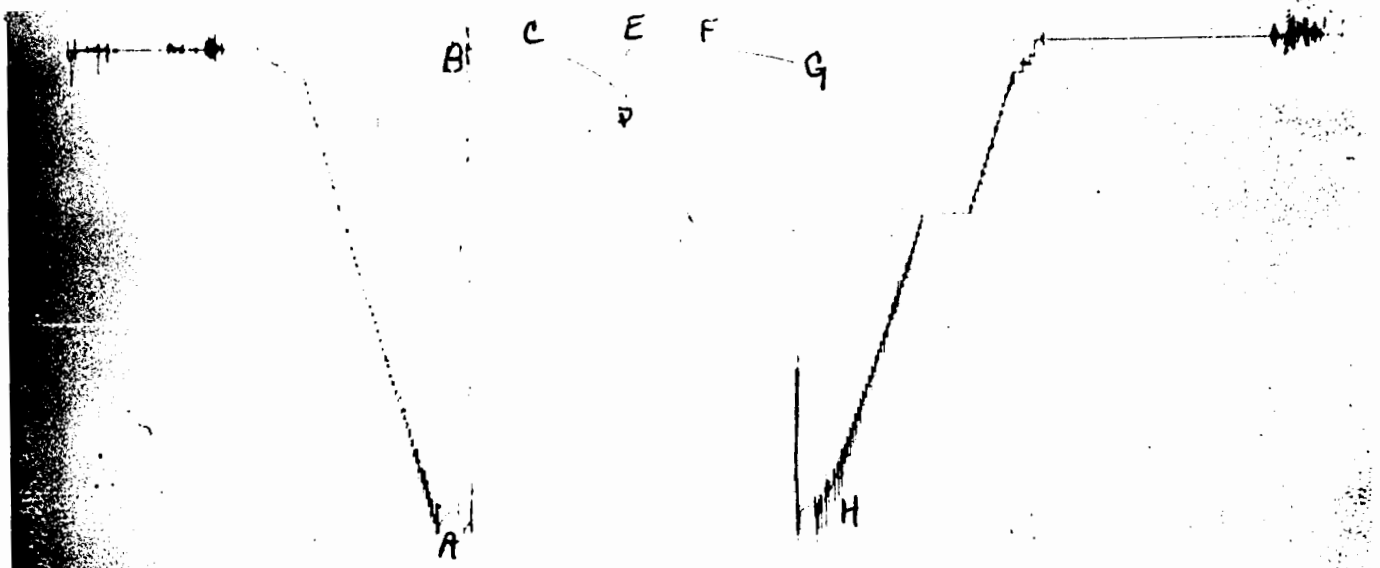
HALLIBURTON
SERVICES

TICKET NO. 99521200
24-JAN-85
PRATT

FORMATION TESTING SERVICE REPORT

LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
WENZEL	1	2	3541.' - 3566.'	GRUSS PETROLEUM MANAGEMENT, INCORPORATED

LEGAL LOCATION SEC. - TWP. - RNG.	FIELD AREA	COUNTY	STATE
2-32S-10W		BARBER	KANSAS BG

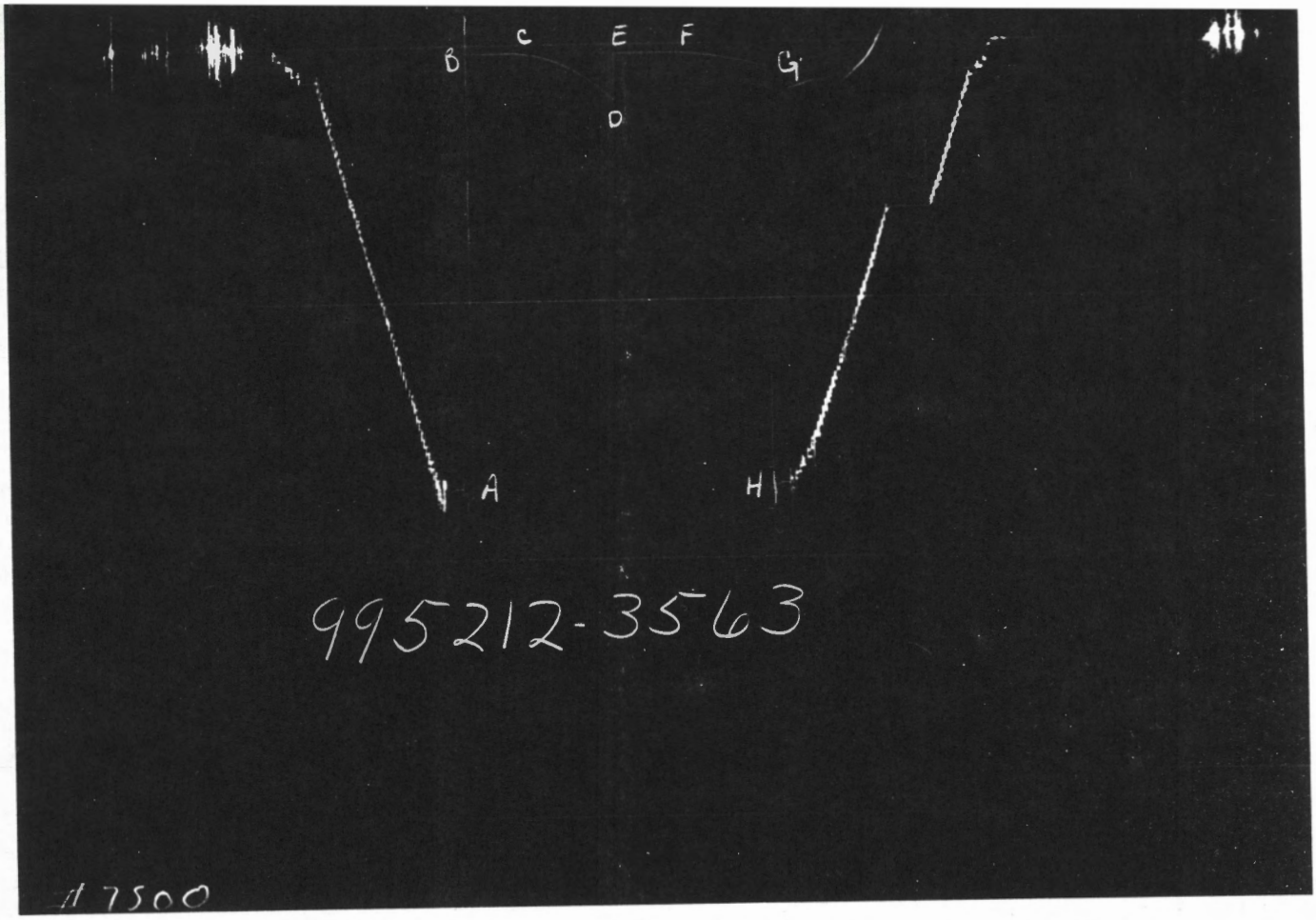


995212-7501

7501

GAUGE NO: 7501 DEPTH: 3525.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		1699.4			
B	INITIAL FIRST FLOW		10.6	30.0	30.0	F
C	FINAL FIRST FLOW		10.6			
C	INITIAL FIRST CLOSED-IN		10.6	60.0	60.0	C
D	FINAL FIRST CLOSED-IN		194.3			
E	INITIAL SECOND FLOW		15.6	30.0	30.0	F
F	FINAL SECOND FLOW		14.2			
F	INITIAL SECOND CLOSED-IN		14.2	60.0	60.0	C
G	FINAL SECOND CLOSED-IN		71.0			
H	FINAL HYDROSTATIC		1693.4			



GAUGE NO: 7500 DEPTH: 3563.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1735	1719.2			
B	INITIAL FIRST FLOW	20	30.8	30.0	30.0	F
C	FINAL FIRST FLOW	29	31.4			
C	INITIAL FIRST CLOSED-IN	29	31.4	60.0	60.0	C
D	FINAL FIRST CLOSED-IN	215	220.1			
E	INITIAL SECOND FLOW	29	34.3	30.0	30.0	F
F	FINAL SECOND FLOW	39	34.3			
F	INITIAL SECOND CLOSED-IN	39	34.3	60.0	60.0	C
G	FINAL SECOND CLOSED-IN	88	92.5			
H	FINAL HYDROSTATIC	1715	1710.9			

EQUIPMENT & HOLE DATA

FORMATION TESTED: DOUGLAS
NET PAY (ft):
GROSS TESTED FOOTAGE: 25.0
ALL DEPTHS MEASURED FROM: KB
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 1525
TOTAL DEPTH (ft): 3566.0
PACKER DEPTH(S) (ft): 3535, 3541
FINAL SURFACE CHOKE (in): 0.250
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.30
MUD VISCOSITY (sec): 41
ESTIMATED HOLE TEMP. (°F): 105
ACTUAL HOLE TEMP. (°F): 98 @ 3561.0 ft

TICKET NUMBER: 99521200

DATE: 1-19-85 TEST NO: 2

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: PRATT

TESTER: CONDICT

WITNESS: FALWELL, GEOLOGIST

DRILLING CONTRACTOR: H-30 DRILLING COMPANY #5

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	@ °F	9000 ppm
BOTTOM	@ °F	8798 ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE:
cu.ft. OF GAS:
cc OF OIL:
cc OF WATER:
cc OF MUD:
TOTAL LIQUID cc:

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY: 0.650

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

20' OF MUD

MEASURED FROM TESTER VALVE

REMARKS:

GRINDOUT: 100% MUD

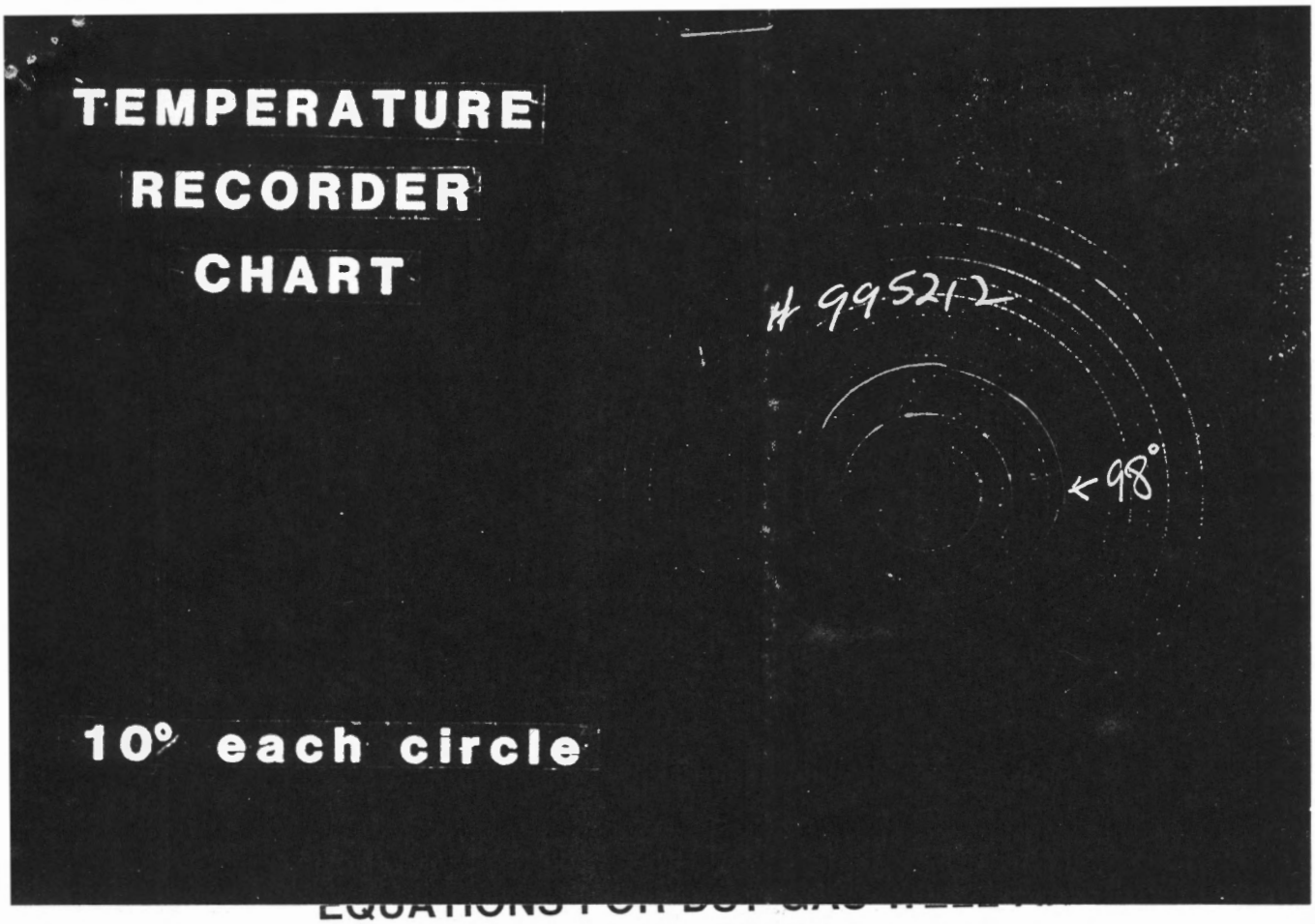
TIGHT HOLE.....

TYPE & SIZE MEASURING DEVICE: 2" MERLA ORIFICE WELL TESTER					TICKET NO: 99521200
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
1-19-85					
1930					PICKED UP AND MADE UP TOOLS
2201					TOOL ON BOTTOM
2210					TOOL OPENED WITH A 1/4" BLOW
					THAT DECREASED TO SURFACE OF
					WATER IN 30 MINUTES.
2240					CLOSED TOOL
2340					OPENED TOOL WITH A VERY WEAK
					BLOW AT SURFACE OF WATER
1-20-85					
0010					CLOSED TOOL
0110					OPENED BY-PASS, TOOL OFF BOTTOM.
0330					TOOL IN TABLE. POWER PLANT WENT
					DOWN.
0600					TOOL LAID DOWN.

TICKET NO. 99521200

		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE.....	4.500	3.826	3271.0	
3	DRILL COLLARS.....	6.250	2.250	120.0	
50	IMPACT REVERSING SUB.....	6.000	3.000	1.0	3392.0
3	DRILL COLLARS.....	6.250	2.250	120.0	
5	CROSSOVER.....	6.250	2.250	1.0	
12	DUAL CIP VALVE.....	5.875	0.870	6.0	
60	HYDROSPRING TESTER.....	5.000	0.750	5.0	3523.0
80	AP RUNNING CASE.....	5.000	2.250	4.0	3525.0
16	VR SAFETY JOINT.....	5.000	1.000	3.0	
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	3535.0
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	3541.0
20	FLUSH JOINT ANCHOR.....	5.000	2.370	18.0	
83	HT-500 TEMPERATURE CASE.....	5.000	3.340	1.0	3561.0
81	BLANKED-OFF RUNNING CASE.....	5.000		4.0	3563.0
	TOTAL DEPTH				3566.0

EQUIPMENT DATA



EQUATIONS FOR OIL & GAS WELLS

Indicated Flow Capacity	$kh = \frac{1637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[\frac{m(P^*)_i - m(P_f)}{m} - \text{LOG} \frac{k(t/60)}{\phi\ \mu\ c_t r_w^2} + 3.23 \right]$	—
Damage Ratio	$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87\ mS}$	—
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g\ m(P^*)}{m(P^*) - m(P_f)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g \sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032 \sqrt{\frac{k(t/60)}{\phi \mu c_t}}$	ft