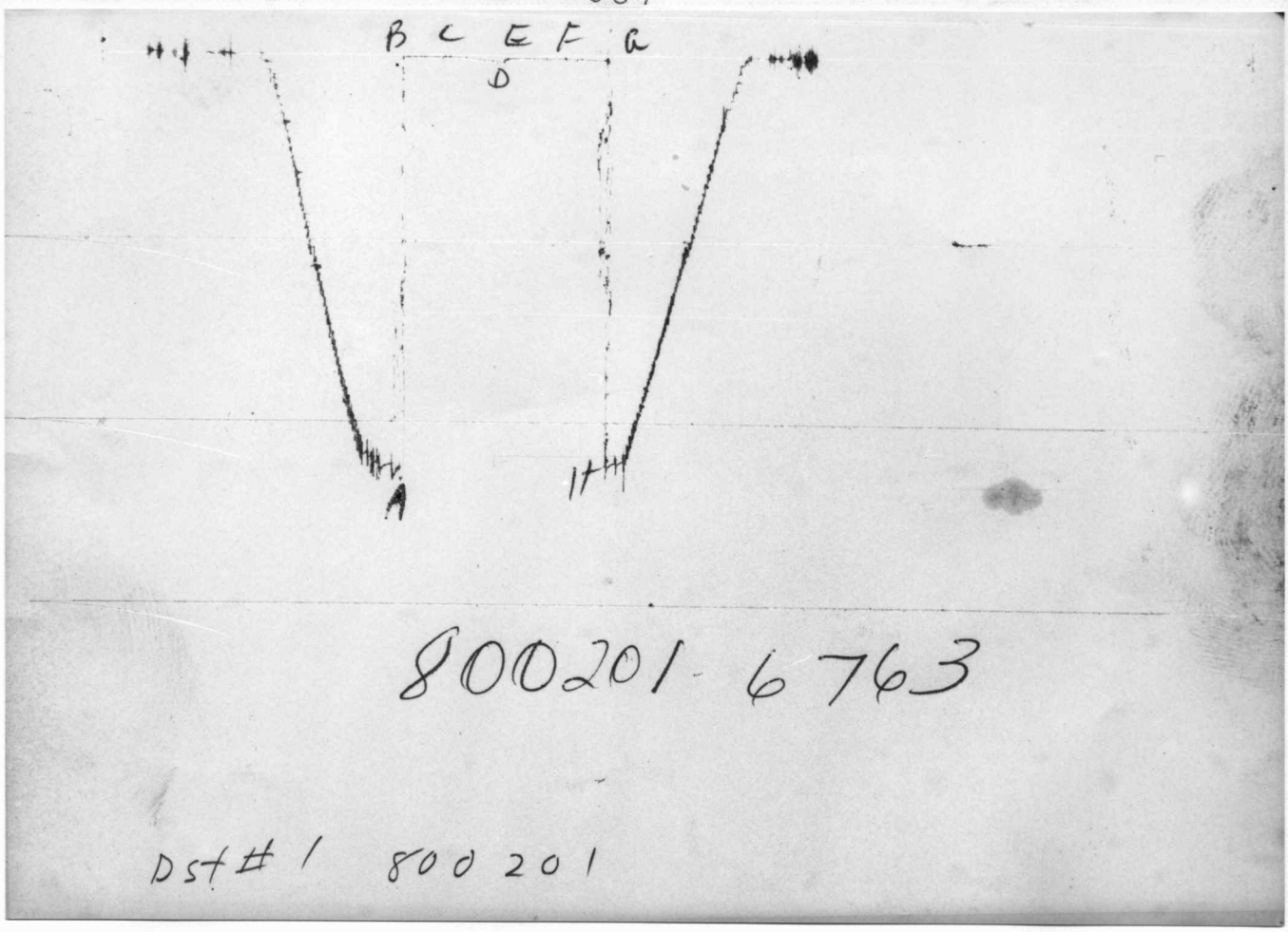
HALLIBURTON
SERVICES

TICKET NO. 80020100
13-FEB-84
PRATT

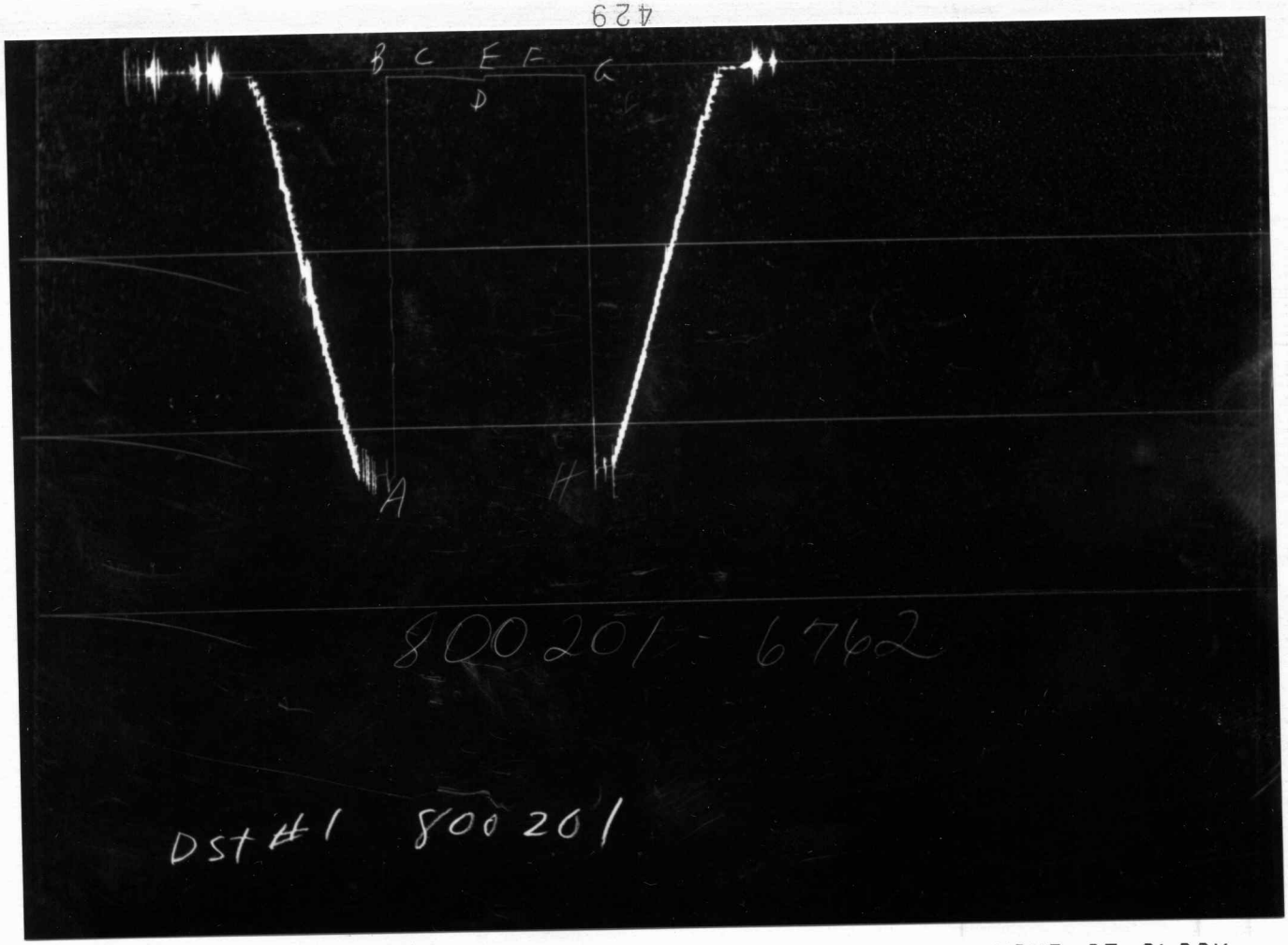
FORMATION TESTING SERVICE REPORT

SCHMITT "C"	1	1			
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL		LEASE OWNER/COMPANY NAME
LEGAL LOCATION SEC. 18 - TWP. 22 - RNG. 24	FIELD AREA	COUNTY HODGEMAN	STATE KANSAS	SM	



GAUGE NO: 6763 DEPTH: 4557.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2243.0				
B	INITIAL FIRST FLOW	9.6		30.0	30.0	F
C	FINAL FIRST FLOW	10.5				
C	INITIAL FIRST CLOSED-IN	10.5		30.0	30.0	C
D	FINAL FIRST CLOSED-IN	38.3				
E	INITIAL SECOND FLOW	27.1		30.0	30.0	F
F	FINAL SECOND FLOW	15.5				
F	INITIAL SECOND CLOSED-IN	15.5		30.0	30.0	C
G	FINAL SECOND CLOSED-IN	21.6				
H	FINAL HYDROSTATIC	2231.2				



GAUGE NO: 6762 DEPTH: 4616.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2276	2272.2			
B	INITIAL FIRST FLOW	56	43.5	30.0	30.0	F
C	FINAL FIRST FLOW	56	45.7			
C	INITIAL FIRST CLOSED-IN	56	45.7	30.0	30.0	C
D	FINAL FIRST CLOSED-IN	83	73.7			
E	INITIAL SECOND FLOW	42	53.0	30.0	30.0	F
F	FINAL SECOND FLOW	42	48.1			
F	INITIAL SECOND CLOSED-IN	42	48.1	30.0	30.0	C
G	FINAL SECOND CLOSED-IN	56	57.8			
H	FINAL HYDROSTATIC	2263	2258.4			

EQUIPMENT & HOLE DATA

FORMATION TESTED: MISSISSIPPI
NET PAY (ft):
GROSS TESTED FOOTAGE: 49.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 2489
TOTAL DEPTH (ft): 4619.0
PACKER DEPTH(S) (ft): 4564, 4570
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.60
MUD VISCOSITY (sec): 40
ESTIMATED HOLE TEMP. (°F): 116
ACTUAL HOLE TEMP. (°F): ___ @ _____ ft

TICKET NUMBER: 80020100

DATE: 2-9-84 TEST NO: 1

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: PRATT

TESTER: ROLF

WITNESS: CHAS. SPRADLIN

DRILLING CONTRACTOR: ABERCROMBIE DRILLING COMPANY #6

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY		CHLORIDES
MUD SYSTEM	____ @ ____ °F		8000 ppm
BOTTOM	0.360 @ 70 °F		9600 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:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

15 FEET OF MUD WITH OIL SPECKS

MEASURED FROM TESTER VALVE

REMARKS:

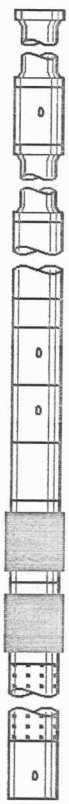
BOTTOM RECOVERY SP. GRAVITY = 1.0114, PH = 10.5, 100% MUD WITH A TRACE OF OIL.

TYPE & SIZE MEASURING DEVICE: ____________________

TICKET NO: 80020100

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
2-9-84					
1300					CALLED OUT, REQUESTED NOW
1530					ON LOCATION, RIG TRIPPING OUT
1700					STARTED CLOCKS
1715					STARTED PICKING UP TEST TOOL
1745					TOOL MADE UP AND IN TABLE
1925					OPENED TOOL WITH A WEAK BLOW
					1/4" IN BUCKET, DIED IN
					25 MINUTES.
1955					CLOSED TOOL
2025					REOPENED TOOL
					NO BLOW.
2055					CLOSED TOOL
2125					TOOL OFF BOTTOM, BYPASS
					OPENED.

TICKET NO. 80020100



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE.....	4.500	3.826	4047.0	
50	IMPACT REVERSING SUB.....	5.750	2.750	1.0	4048.0
1	DRILL PIPE.....	4.500	3.826	372.0	
3	DRILL COLLARS.....	6.250	2.250	124.0	
5	CROSSOVER.....	5.750	2.750	1.0	
12	DUAL CIP VALVE.....	5.030	0.870	6.0	
60	HYDROSPRING TESTER.....	5.000	0.750	5.0	4555.0
80	AP RUNNING CASE.....	5.000	3.060	4.0	4557.0
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	4564.0
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	4570.0
20	FLUSH JOINT ANCHOR.....	5.000	3.840	43.0	
81	BLANKED-OFF RUNNING CASE.....	5.000	2.440	4.0	4616.0
	TOTAL DEPTH				4619.0

EQUIPMENT DATA

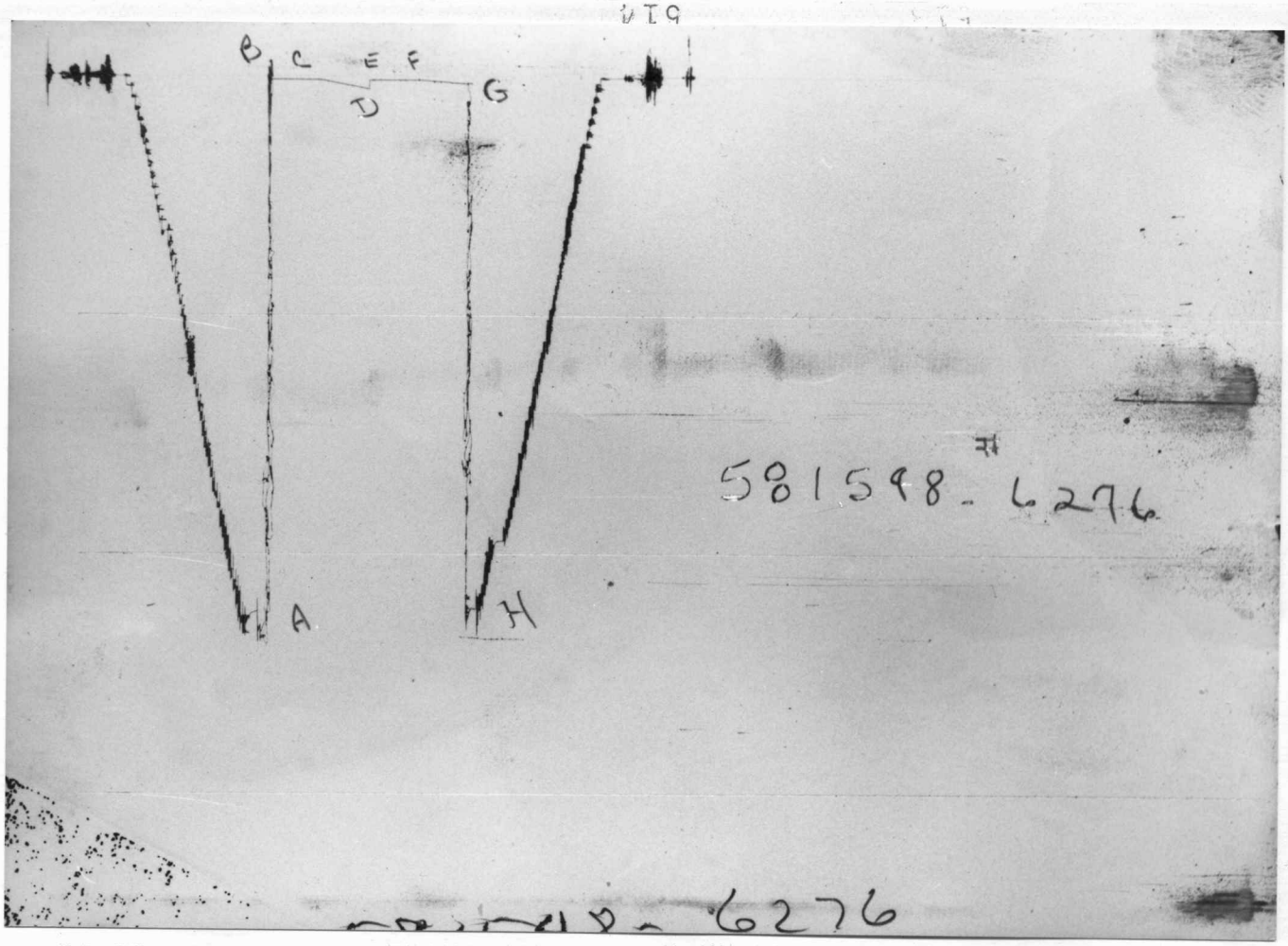
HALLIBURTON
SERVICES

TICKET NO. 58154800
15-FEB-84
PRATT

FORMATION TESTING SERVICE REPORT

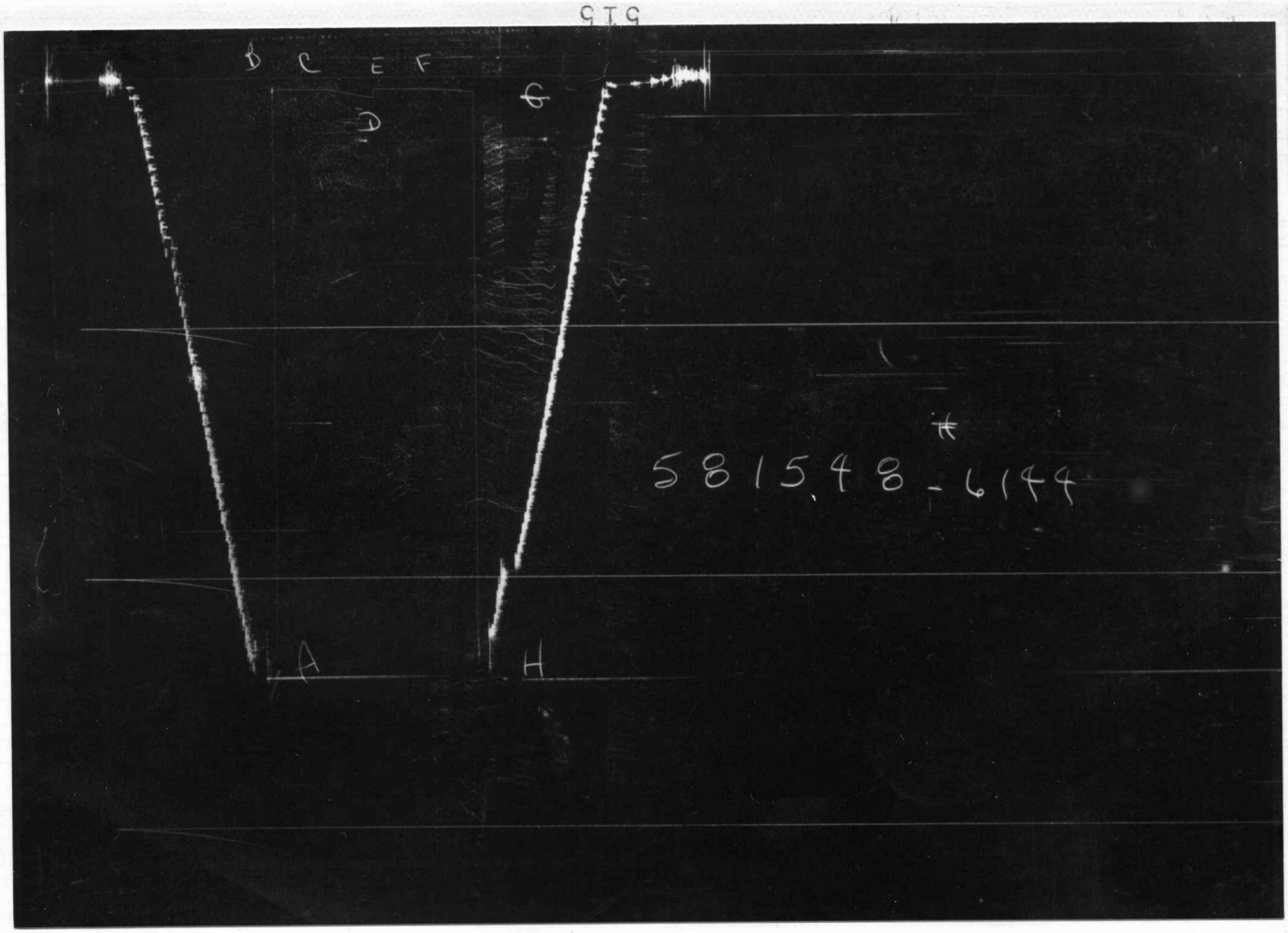
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
SCHMITT C	1	2	4569.' - 4626.'	K & E PETROLEUM, INCORPORATED

LEGAL LOCATION SEC. - TWP. - RNG.	FIELD AREA	COUNTY	STATE
18 - 22 - 24		HODGEMAN	KANSAS NM



GAUGE NO: 6276 DEPTH: 4556.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2273.4			
B	INITIAL FIRST FLOW		13.6	30.0	30.0	F
C	FINAL FIRST FLOW		14.3			
C	INITIAL FIRST CLOSED-IN		14.3	30.0	30.0	C
D	FINAL FIRST CLOSED-IN		51.4			
E	INITIAL SECOND FLOW		19.7	30.0	30.0	F
F	FINAL SECOND FLOW		15.8			
F	INITIAL SECOND CLOSED-IN		15.8	30.0	30.0	C
G	FINAL SECOND CLOSED-IN		30.1			
H	FINAL HYDROSTATIC		2220.0			



GAUGE NO: 6144 DEPTH: 4623.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2326	2299.7			
B	INITIAL FIRST FLOW	40	47.5	30.0	30.0	F
C	FINAL FIRST FLOW	40	48.0			
C	INITIAL FIRST CLOSED-IN	40	48.0	30.0	30.0	C
D	FINAL FIRST CLOSED-IN	79	80.9			
E	INITIAL SECOND FLOW	40	50.1	30.0	30.0	F
F	FINAL SECOND FLOW	40	49.0			
F	INITIAL SECOND CLOSED-IN	40	49.0	30.0	30.0	C
G	FINAL SECOND CLOSED-IN	59	61.9			
H	FINAL HYDROSTATIC	2326	2248.8			

EQUIPMENT & HOLE DATA

FORMATION TESTED: MISSISSIPPI
NET PAY (ft): 5.0
GROSS TESTED FOOTAGE: 57.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 2489
TOTAL DEPTH (ft): 4626.0
PACKER DEPTH(S) (ft): 4563, 4569
FINAL SURFACE CHOKE (in): 0.250
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.40
MUD VISCOSITY (sec): 46
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 106 @ 4621.0 ft

TICKET NUMBER: 58154800

DATE: 2-10-84 TEST NO: 2

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: PRATT

TESTER: L.R. PARKER

WITNESS: C. SPRADLIN

DRILLING CONTRACTOR: ABERCROMBIE DRILLING COMPANY

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
	@ °F	ppm
	@ °F	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:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

15 FEET OF SLIGHTLY OIL CUT MUD WITH A LITTLE FREE OIL ON TOP.

MEASURED FROM TESTER VALVE

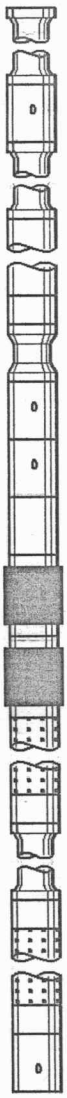
REMARKS:

BLOW DEAD WITHIN 20 MINUTES OF THE FIRST OPENING.

TYPE & SIZE MEASURING DEVICE: _____ | TICKET NO: 58154800

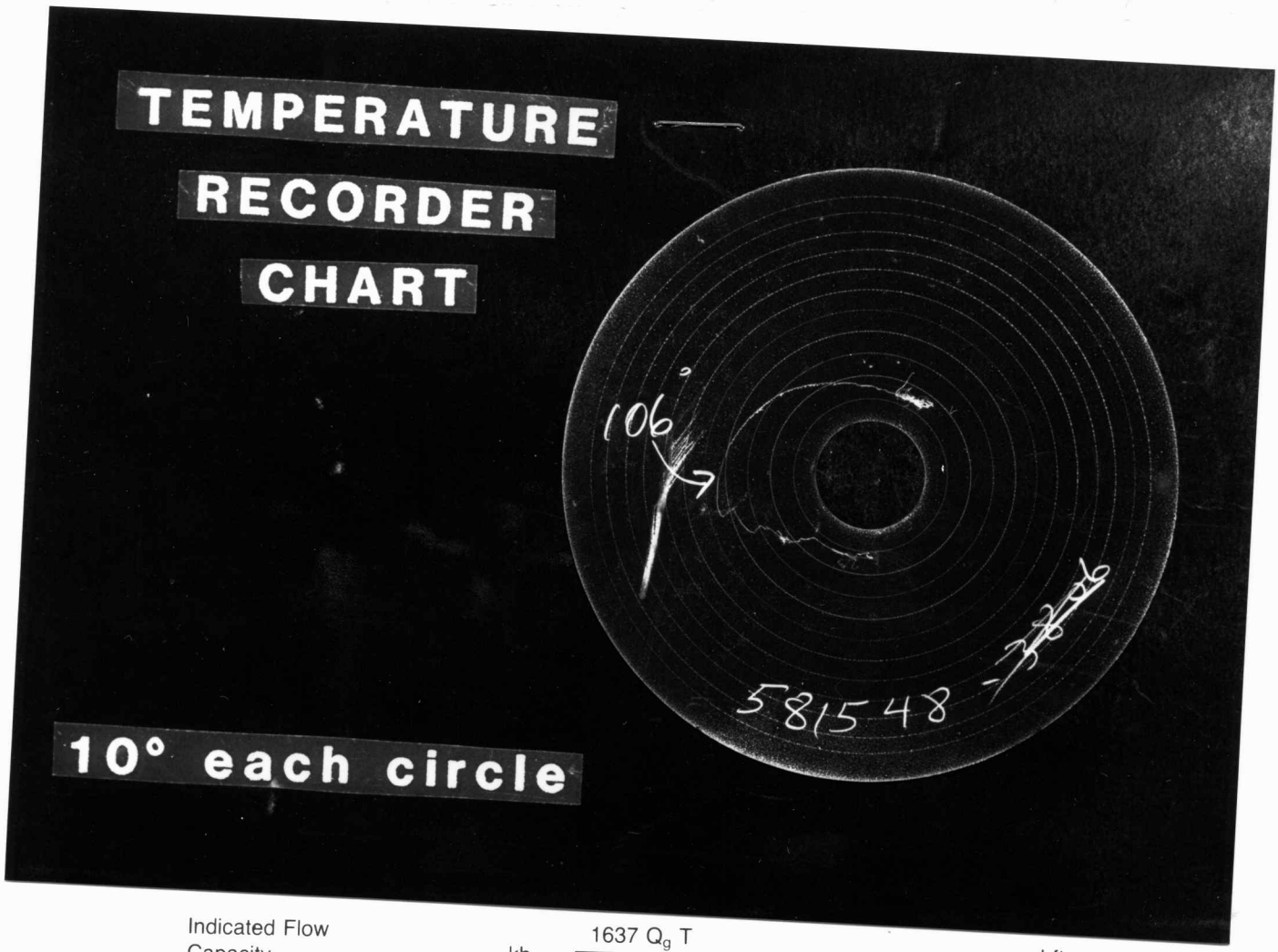
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
2-10-84					
0615					CALLED OUT.
1000					ON LOCATION.
1020					PICKED UP THE TOOL.
1055					TOOL IN THE TABLE.
1100					TOOL THROUGH THE TABLE.
1226					ON BOTTOM.
1230					TOOL OPENED WITH A VERY WEAK
					BLOW OF 1/4" IN A BUCKET OF
					WATER. BLOW WAS DEAD WITHIN
					20 MINUTES OF THE FIRST OPEN-
					ING.
1300					CLOSED TOOL.
1330					REOPENED TOOL WITH NO BLOW
					THROUGHOUT THE SECOND OPENING.
1400					CLOSED TOOL.
1430					OFF BOTTOM.
1550					TOOL IN THE ROTARY TABLE.

TICKET NO. 58154800



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE.....	4.500	3.826	3976.0	
50	IMPACT REVERSING SUB.....	6.000	2.750	1.0	3977.0
4	FLEX WEIGHT.....	4.500	2.764	445.0	
3	DRILL COLLARS.....	6.250	2.250	117.0	
5	CROSSOVER.....	6.000	2.250	1.0	
11	HANDLING SUB & CHOKE ASSEMBLY...	5.750	3.750	5.0	
12	DUAL CIP VALVE.....	5.000	0.870	5.0	
60	HYDROSPRING TESTER.....	5.000	0.750	5.0	4554.0
80	AP RUNNING CASE.....	5.000	3.060	4.0	4556.0
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	4563.0
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	4569.0
20	FLUSH JOINT ANCHOR.....	5.000	2.370	3.0	
5	CROSSOVER.....	6.000	2.250	1.0	
1	DRILL PIPE.....	4.500	3.826	31.0	
5	CROSSOVER.....	6.000	2.250	1.0	
20	FLUSH JOINT ANCHOR.....	5.000	2.370	13.0	
83	HT-500 TEMPERATURE CASE.....	5.000	2.440	2.0	4621.0
81	BLANKED-OFF RUNNING CASE.....	5.000		4.0	4623.0
	TOTAL DEPTH				4626.0

EQUIPMENT DATA



Indicated Flow Capacity	$kh = \frac{1637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG} \frac{kt}{\phi\ \mu\ c_t r_w^2} + 3.23 \right]$	—
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	$r_i = 0.032 \sqrt{\frac{kt}{\phi \mu c_t}}$	ft

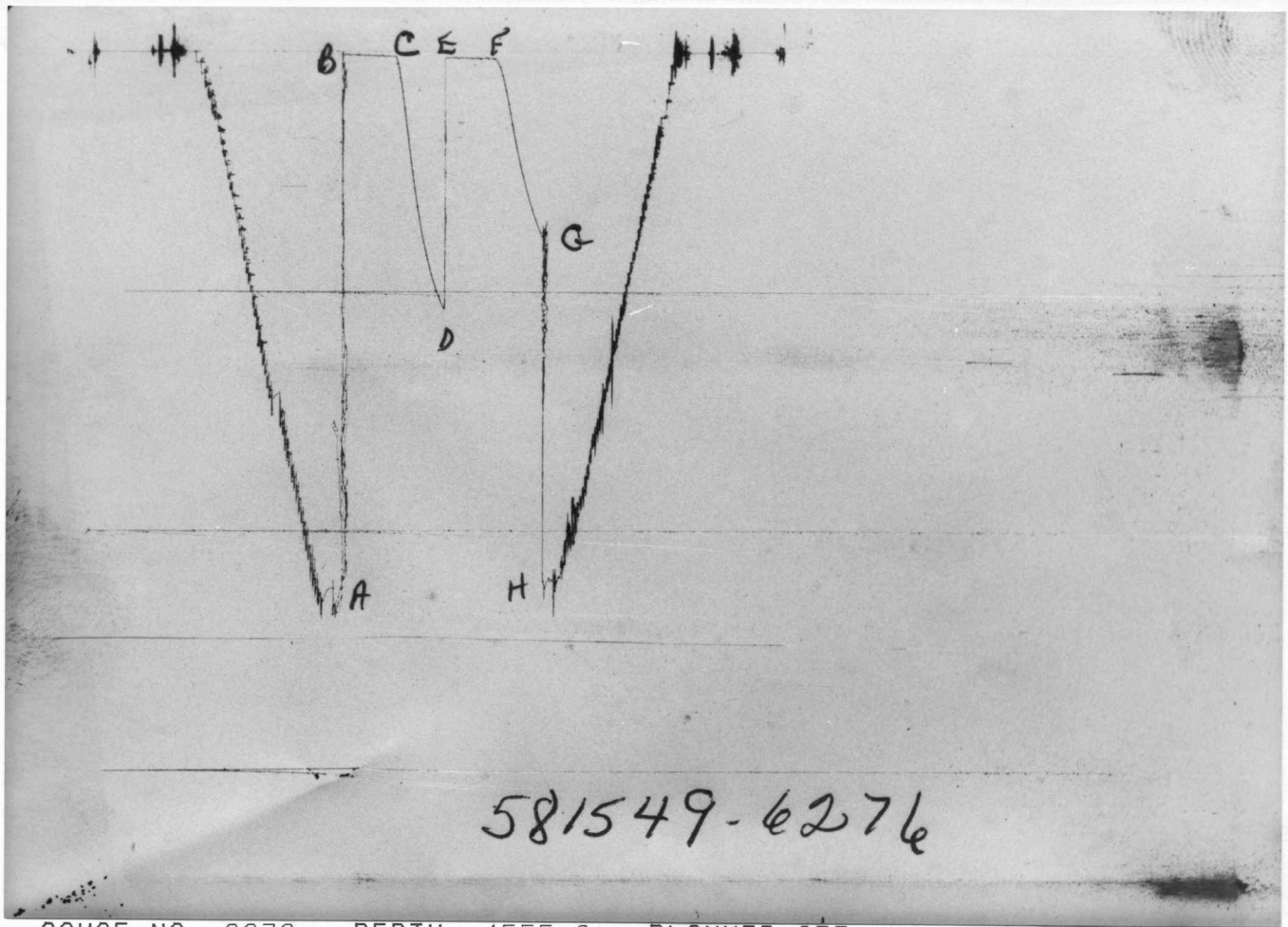
TICKET NO. 58154900

15-FEB-84

PRATT

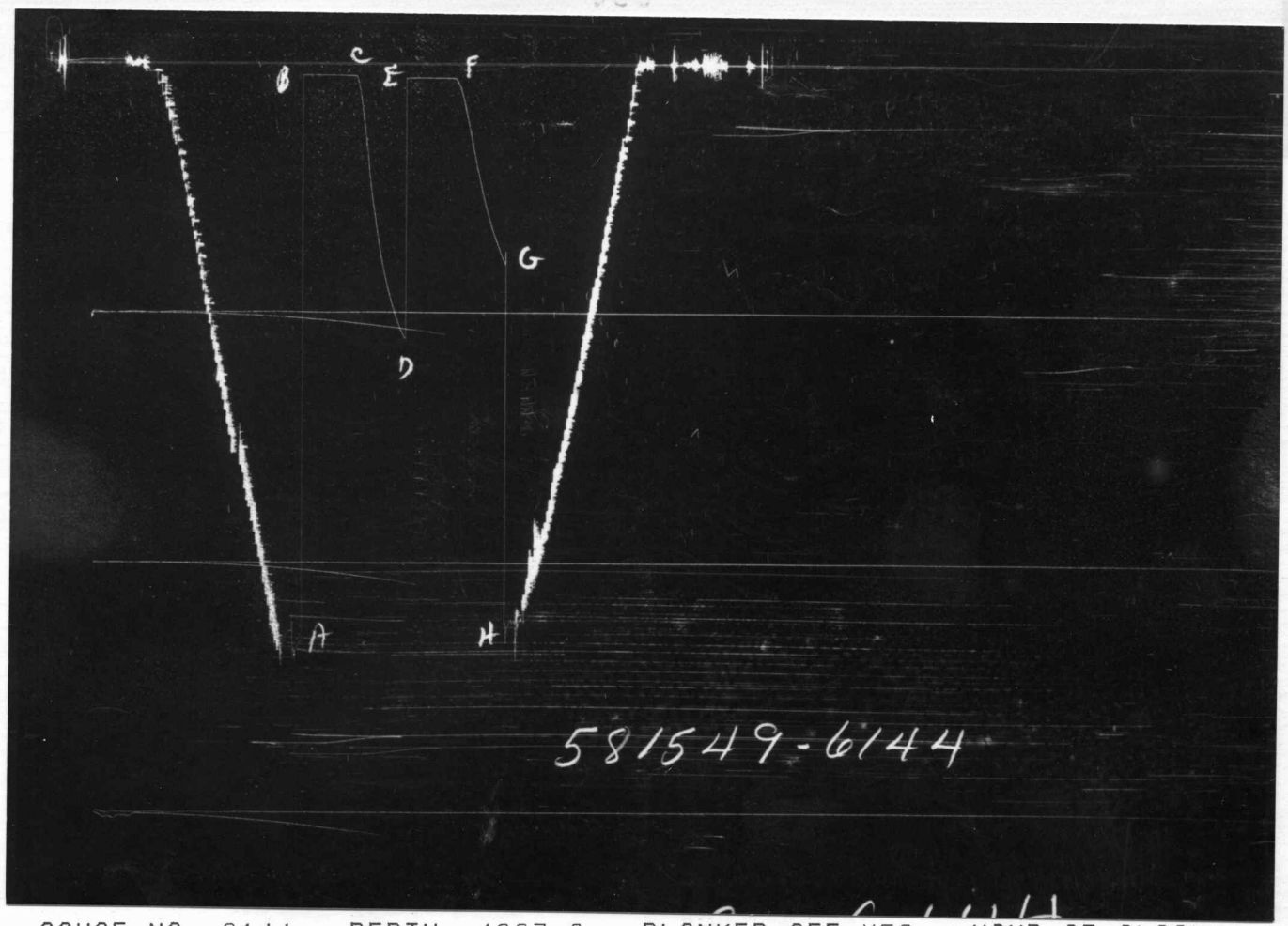
FORMATION TESTING SERVICE REPORT

LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL		LEASE OWNER/COMPANY NAME
LEGAL LOCATION SEC. - TWP. - RNG. 18-22-24	FIELD AREA	COUNTY HODGEMAN	STATE KANSAS	OR	



GAUGE NO: 6276 DEPTH: 4555.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2233.5			
B	INITIAL FIRST FLOW		10.8	30.0	32.7	F
C	FINAL FIRST FLOW		18.1			
C	INITIAL FIRST CLOSED-IN		18.1	30.0	29.3	C
D	FINAL FIRST CLOSED-IN		1066.7			
E	INITIAL SECOND FLOW		26.2	30.0	30.0	F
F	FINAL SECOND FLOW		26.2			
F	INITIAL SECOND CLOSED-IN		26.2	30.0	30.7	C
G	FINAL SECOND CLOSED-IN		768.6			
H	FINAL HYDROSTATIC		2203.4			



GAUGE NO: 6144 DEPTH: 4627.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2326	2267.1			
B	INITIAL FIRST FLOW	40	48.9	30.0	32.7	F
C	FINAL FIRST FLOW	40	48.9			
C	INITIAL FIRST CLOSED-IN	40	48.9	30.0	29.3	C
D	FINAL FIRST CLOSED-IN	1104	1101.0			
E	INITIAL SECOND FLOW	50	62.0	30.0	30.0	F
F	FINAL SECOND FLOW	50	59.1			
F	INITIAL SECOND CLOSED-IN	50	59.1	30.0	30.7	C
G	FINAL SECOND CLOSED-IN	790	804.1			
H	FINAL HYDROSTATIC	2248	2237.3			

EQUIPMENT & HOLE DATA

FORMATION TESTED: MISSISSIPPI
NET PAY (ft): 9.0
GROSS TESTED FOOTAGE: 62.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 2489
TOTAL DEPTH (ft): 4630.0
PACKER DEPTH(S) (ft): 4562, 4568
FINAL SURFACE CHOKE (in): 0.250
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.40
MUD VISCOSITY (sec): 46
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 106 @ 4625.0 ft

TICKET NUMBER: 58154900

DATE: 2-10-84 TEST NO: 3

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: PRATT

TESTER: L.R. PARKER

WITNESS: C.SPRADLIN

DRILLING CONTRACTOR: ABERCROMBIE DRILLING COMPANY

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
	@ °F	ppm
	@ °F	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:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

20' OF SLIGHTLY OIL CUT MUD WITH A LITTLE FREE OIL ON TOP.....GRIND OUT 25% OIL, 75% MUD

MEASURED FROM TESTER VALVE

REMARKS:

TYPE & SIZE MEASURING DEVICE: _____ TICKET NO: 58154900

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
2-10-84					STAYED ON LOCATION
2255					PICKED UP TOOL
2315					TOOL IN TABLE
2320					TOOL THROUGH TABLE
2-11-84					
0057					ON BOTTOM
0100					OPENED TOOL WITH A VERY WEAK
					BLOW OF 1/4" IN BUCKET
					BLOW DEAD IN 25 MINUTES
0130					CLOSED TOOL
0200					REOPENED TOOL WITH A VERY
					WEAK BLOW, JUST UNDER SURFACE
					OF WATER
					BLOW DEAD IN 13 MINUTES
0230					CLOSED TOOL
0300					OFF BOTTOM
0425					TOOL IN TABLE

TICKET NO: 58154900	GAUGE NO: 6276
CLOCK NO: 26864 HOUR: 12	DEPTH: 4555.0

HALLIBURTON SERVICES

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	10.8			
C	2	32.7	18.1	7.3		
			FIRST CLOSED-IN			
C	1	0.0	18.1			
	2	2.0	62.2	44.1	1.9	1.233
	3	4.0	159.0	140.8	3.6	0.958
	4	6.0	269.1	251.0	5.1	0.810
	5	8.0	387.3	369.2	6.5	0.704
	6	10.0	494.5	476.4	7.6	0.631
	7	12.0	599.8	581.7	8.8	0.570
	8	14.0	687.9	669.8	9.8	0.523
	9	16.0	767.3	749.2	10.8	0.482
	10	18.0	831.5	813.3	11.6	0.450
	11	20.0	894.0	875.8	12.4	0.421
	12	22.0	944.7	926.6	13.1	0.395
	13	24.0	990.0	971.9	13.8	0.373
	14	26.0	1026.3	1008.2	14.5	0.353
	15	28.0	1058.2	1040.1	15.1	0.336
D	16	29.3	1066.7	1048.6	15.4	0.325
			SECOND FLOW			
E	1	0.0	26.2			
F	2	30.0	26.2	0.0		
			SECOND CLOSED-IN			
F	1	0.0	26.2			
	2	3.0	57.5	31.3	2.9	1.342
	3	6.0	128.0	101.7	5.5	1.059
	4	9.0	230.3	204.1	7.9	0.901
	5	12.0	342.6	316.4	10.1	0.794
	6	15.0	439.9	413.7	12.1	0.714
	7	18.0	525.5	499.3	14.0	0.652
	8	21.0	601.5	575.3	15.7	0.600
	9	24.0	665.9	639.6	17.4	0.558
	10	27.0	722.8	696.6	18.9	0.521
G	11	30.7	768.6	742.4	20.6	0.483

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$

REMARKS:

TICKET NO: 58154900	GAUGE NO: 6144
CLOCK NO: 7046 HOUR: 12	DEPTH: 4627.0

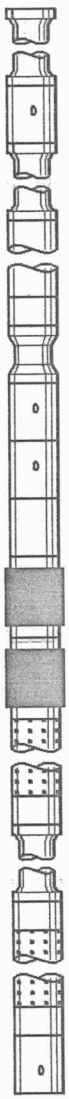
HALLIBURTON SERVICES

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	48.9		
C	2	32.7	48.9	0.0	
FIRST CLOSED-IN					
C	1	0.0	48.9		
	2	2.0	108.2	59.3	1.9	1.229
	3	4.0	202.5	153.6	3.5	0.966
	4	6.0	326.0	277.1	5.1	0.807
	5	8.0	462.6	413.7	6.4	0.707
	6	10.0	570.6	521.7	7.6	0.631
	7	12.0	665.8	616.9	8.8	0.570
	8	14.0	749.6	700.7	9.8	0.524
	9	16.0	824.8	775.9	10.8	0.483
	10	18.0	882.6	833.7	11.6	0.450
	11	20.0	942.4	893.4	12.4	0.420
	12	22.0	984.3	935.4	13.2	0.395
	13	24.0	1028.1	979.2	13.8	0.373
	14	26.0	1062.7	1013.8	14.5	0.354
	15	28.0	1090.6	1041.7	15.1	0.336
D	16	29.3	1101.0	1052.1	15.4	0.325
SECOND FLOW					
E	1	0.0	62.0		
F	2	30.0	59.1	-2.9	
SECOND CLOSED-IN					
F	1	0.0	59.1		
	2	3.0	91.8	32.6	2.9	1.335
	3	6.0	158.3	99.2	5.4	1.061
	4	9.0	256.3	197.2	7.9	0.901
	5	12.0	364.0	304.9	10.1	0.794
	6	15.0	462.8	403.7	12.1	0.714
	7	18.0	553.7	494.6	14.0	0.651
	8	21.0	629.6	570.5	15.7	0.601
	9	24.0	693.7	634.6	17.4	0.557
	10	27.0	748.4	689.3	18.9	0.521
G	11	30.7	804.1	745.0	20.6	0.483

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$

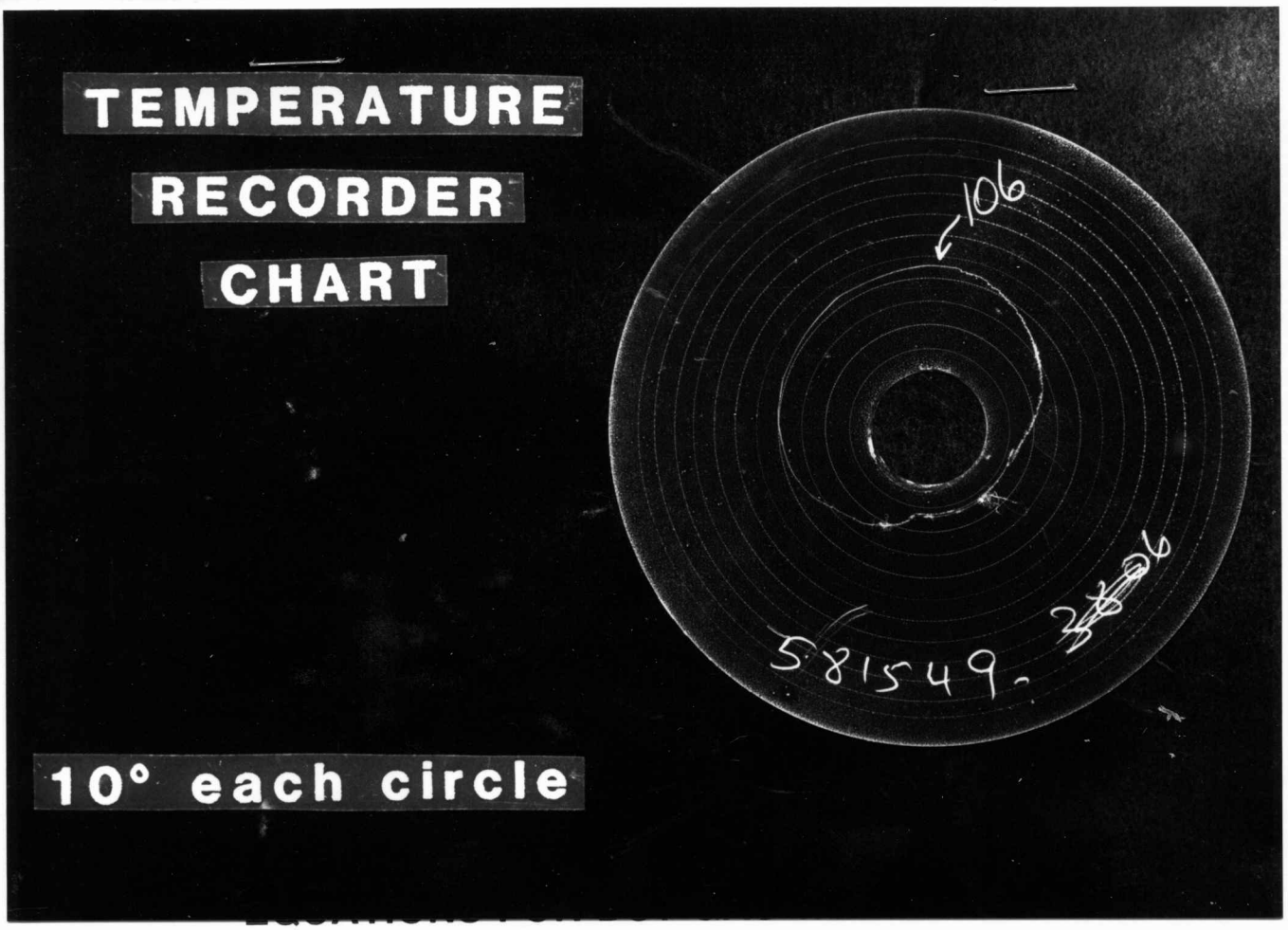
REMARKS:

TICKET NO. 58154900



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE.....	4.500	3.826	3975.0	
50	IMPACT REVERSING SUB.....	6.000	2.750	1.0	3976.0
4	FLEX WEIGHT.....	4.500	2.764	445.0	
3	DRILL COLLARS.....	6.250	2.250	117.0	
5	CROSSOVER.....	6.000	2.250	1.0	
11	HANDLING SUB & CHOKE ASSEMBLY...	5.750	3.750	5.0	
12	DUAL CIP VALVE.....	5.000	0.870	5.0	
60	HYDROSPRING TESTER.....	5.000	0.750	5.0	4553.0
80	AP RUNNING CASE.....	5.000	3.060	4.0	4555.0
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	4562.0
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	4568.0
20	FLUSH JOINT ANCHOR.....	5.000	2.370	3.0	
5	CROSSOVER.....	6.000	2.250	1.0	
1	DRILL PIPE.....	4.500	3.826	31.0	
5	CROSSOVER.....	6.000	2.250	1.0	
20	FLUSH JOINT ANCHOR.....	5.000	2.370	18.0	
83	HT-500 TEMPERATURE CASE.....	5.000		2.0	4625.0
81	BLANKED-OFF RUNNING CASE.....	5.000		4.0	4627.0
	TOTAL DEPTH				4630.0

EQUIPMENT DATA



Indicated Flow Capacity	$kh = \frac{1637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG} \frac{kt}{\phi\ \mu\ c_t r_w^2} + 3.23 \right]$	—
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	$r_i = 0.032 \sqrt{\frac{kt}{\phi \mu c_t}}$	ft

SUMMIT C
LEASE NAME

1
WELL NO.

4
TEST NO.

4621.' - 4634.'
TESTED INTERVAL

K AND E PETROLEUM INCORPORATED
LEASE OWNER/COMPANY NAME

LEGAL LOCATION
SEC. - TWP. - RNG.
18-22-24

FIELD
AREA

COUNTY

STATE
KANSAS SM

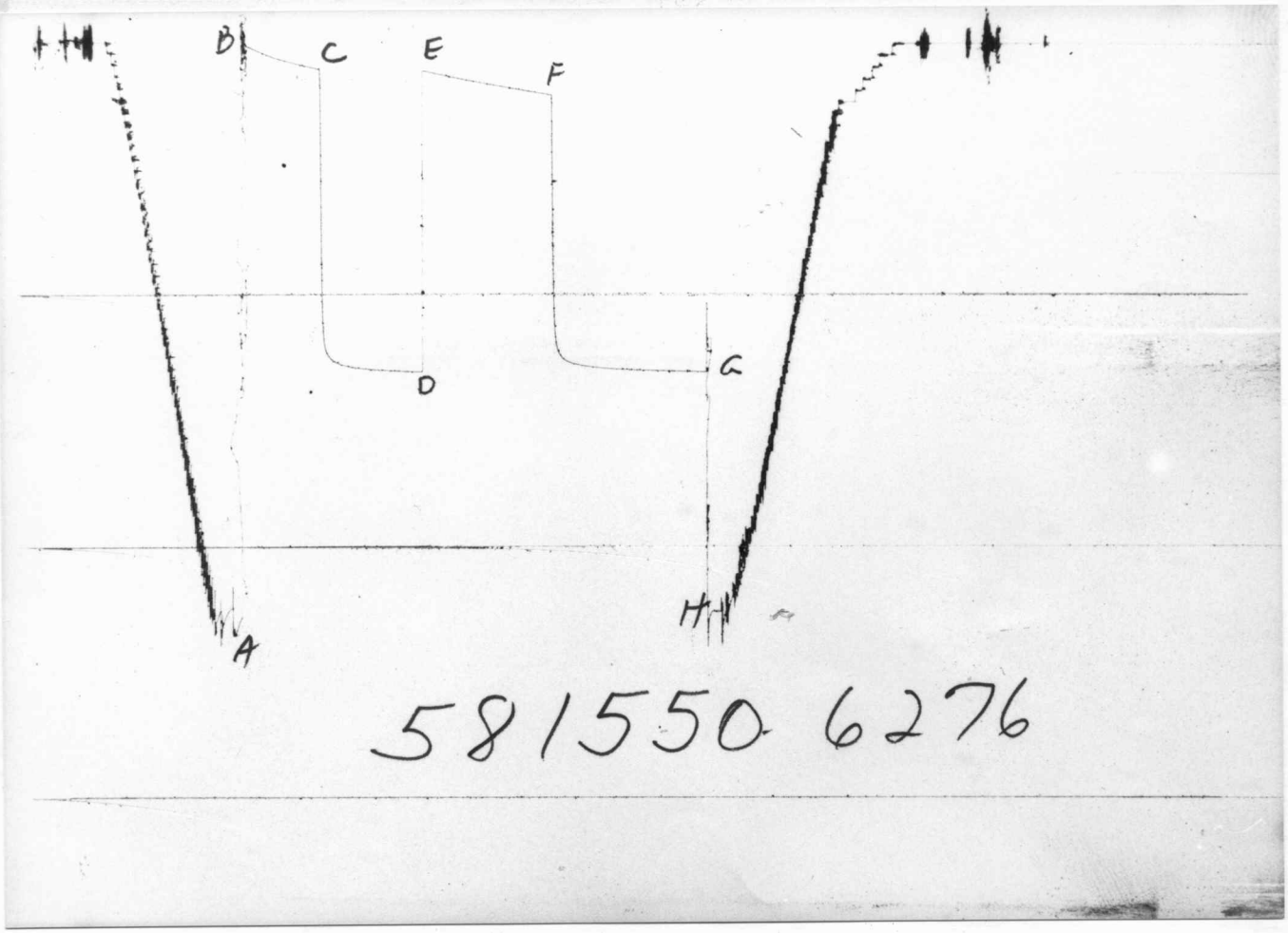
HALLIBURTON
SERVICES

TICKET NO. 58155000

15-FEB-84

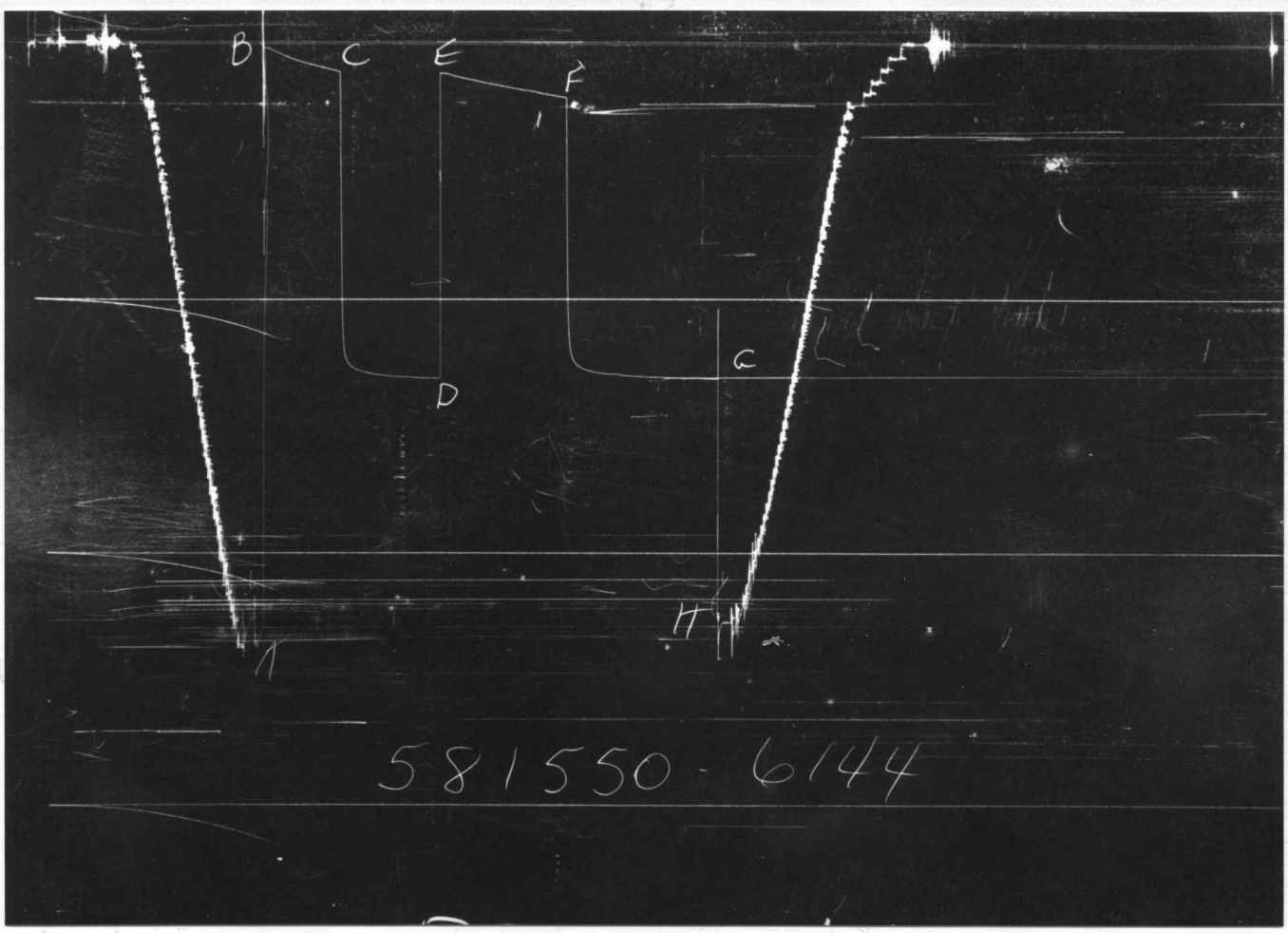
PRATT

FORMATION TESTING SERVICE REPORT



GAUGE NO: 6276 DEPTH: 4608.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2259.7			
B	INITIAL FIRST FLOW		10.3	45.0	45.7	F
C	FINAL FIRST FLOW		105.5			
C	INITIAL FIRST CLOSED-IN		105.5	60.0	59.4	C
D	FINAL FIRST CLOSED-IN		1311.8			
E	INITIAL SECOND FLOW		112.7	75.0	74.9	F
F	FINAL SECOND FLOW		207.0			
F	INITIAL SECOND CLOSED-IN		207.0	90.0	89.9	C
G	FINAL SECOND CLOSED-IN		1310.9			
H	FINAL HYDROSTATIC		2266.3			



GAUGE NO: 6144 DEPTH: 4631.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2326	2274.3			
B	INITIAL FIRST FLOW	10	24.2	45.0	45.7	F
C	FINAL FIRST FLOW	109	117.6			
C	INITIAL FIRST CLOSED-IN	109	117.6	60.0	59.4	C
D	FINAL FIRST CLOSED-IN	1311	1322.9			
E	INITIAL SECOND FLOW	109	125.4	75.0	74.9	F
F	FINAL SECOND FLOW	208	219.7			
F	INITIAL SECOND CLOSED-IN	208	219.7	90.0	89.9	C
G	FINAL SECOND CLOSED-IN	1311	1324.3			
H	FINAL HYDROSTATIC	2277	2283.5			

EQUIPMENT & HOLE DATA

FORMATION TESTED: MISSISSIPPI
NET PAY (ft):
GROSS TESTED FOOTAGE: 13.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 2489
TOTAL DEPTH (ft): 4634.0
PACKER DEPTH(S) (ft): 4615, 4621
FINAL SURFACE CHOKE (in): 0.250
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.40
MUD VISCOSITY (sec): 55
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 120 @ 4629.0 ft

TICKET NUMBER: 58155000

DATE: 2-11-84 TEST NO: 4

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: PRATT

TESTER: L.R. PARKER

WITNESS: C. SPRADLIN

DRILLING CONTRACTOR: ABERCROMBIE DRILLING COMPANY

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
	@ °F	ppm
	@ °F	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): 36.0 @ 60°F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

90 FEET OF FREE GASSY OIL
360 FEET OF MUDDY SALT WATER

MEASURED FROM TESTER VALVE

REMARKS:

TYPE & SIZE MEASURING DEVICE: _____ TICKET NO: 58155000

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
					REMAINED ON LOCATION
2-11-84					
1230					PICKED UP TOOL
1240					TOOL IN TABLE
1245					TOOL THROUGH TABLE
1357					ON BOTTOM
1400					TOOL OPENED WITH VERY WEAK
					BLOW, 1/4" IN BUCKET OF WATER
					INCREASED TO 9" BLOW
					AT END OF FIRST FLOW.
1445					CLOSED TOOL
1545					REOPENED TOOL WITH VERY
					WEAK BLOW INCREASING TO
					3" BLOW AT END OF SECOND FLOW
					PERIOD.
1700					CLOSED TOOL
1830					OFF BOTTOM
2025					TOOL IN TABLE.

TICKET NO: 58155000	GAUGE NO: 6276
CLOCK NO: 26864 HOUR: 12	DEPTH: 4608.0

HALLIBURTON SERVICES

FIRST FLOW

REF		MINUTES	PRESSURE	ΔP
B	1	0.0	10.3	
	2	3.0	15.0	4.7
	3	6.0	24.8	9.8
	4	9.0	34.2	9.4
	5	12.0	42.3	8.1
	6	15.0	50.5	8.2
	7	18.0	58.5	8.0
	8	21.0	65.0	6.5
	9	24.0	70.3	5.2
	10	27.0	75.3	5.0
	11	30.0	81.3	6.0
	12	33.0	85.8	4.5
	13	36.0	90.1	4.3
	14	39.0	95.2	5.0
	15	42.0	100.2	5.0
C	16	45.7	105.5	5.2

FIRST CLOSED-IN

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$
C	1	0.0	105.5			
	2	1.0	1000.5	895.1	1.0	1.649
	3	2.0	1183.5	1078.1	1.9	1.376
	4	3.0	1221.8	1116.4	2.8	1.215
	5	4.0	1239.8	1134.3	3.7	1.096
	6	5.0	1252.4	1146.9	4.5	1.005
	7	6.0	1261.2	1155.7	5.3	0.936
	8	7.0	1267.4	1162.0	6.0	0.879
	9	8.0	1272.0	1166.6	6.8	0.827
	10	9.0	1276.0	1170.6	7.5	0.783
	11	10.0	1279.2	1173.7	8.2	0.745
	12	12.0	1284.4	1179.0	9.5	0.681
	13	14.0	1288.4	1183.0	10.7	0.629
	14	16.0	1291.6	1186.1	11.9	0.586
	15	18.0	1294.1	1188.6	12.9	0.549
	16	20.0	1296.3	1190.9	13.9	0.517
	17	22.0	1298.1	1192.6	14.9	0.488
	18	24.0	1299.7	1194.2	15.8	0.463
	19	26.0	1300.7	1195.3	16.6	0.440
	20	28.0	1301.8	1196.4	17.4	0.420
	21	30.0	1302.8	1197.3	18.1	0.402
	22	35.0	1305.9	1200.5	19.8	0.363
	23	40.0	1307.3	1201.8	21.3	0.331
	24	45.0	1309.5	1204.1	22.7	0.304
	25	50.0	1310.9	1205.4	23.9	0.282
	26	55.0	1312.0	1206.5	25.0	0.263
D	27	59.4	1311.8	1206.3	25.8	0.248

SECOND FLOW

REF		MINUTES	PRESSURE	ΔP
E	1	0.0	112.7	

SECOND FLOW - CONTINUED

REF		MINUTES	PRESSURE	ΔP
	2	5.0	117.6	4.9
	3	10.0	125.8	8.2
	4	15.0	133.2	7.4
	5	20.0	140.5	7.3
	6	25.0	147.3	6.8
	7	30.0	153.7	6.4
	8	35.0	160.4	6.7
	9	40.0	166.3	5.9
	10	45.0	172.3	6.1
	11	50.0	178.3	6.0
	12	55.0	184.3	6.0
	13	60.0	189.8	5.6
	14	65.0	195.4	5.6
	15	70.0	201.6	6.3
F	16	74.9	207.0	5.3

SECOND CLOSED-IN

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$
F	1	0.0	207.0			
	2	1.0	1010.2	803.3	1.0	2.070
	3	2.0	1171.2	964.2	2.0	1.785
	4	3.0	1213.5	1006.5	3.0	1.610
	5	4.0	1233.9	1026.9	3.9	1.492
	6	5.0	1245.9	1038.9	4.8	1.400
	7	6.0	1255.5	1048.5	5.7	1.325
	8	7.0	1262.3	1055.3	6.6	1.259
	9	8.0	1266.3	1059.3	7.5	1.207
	10	9.0	1270.1	1063.1	8.4	1.158
	11	10.0	1273.5	1066.5	9.3	1.114
	12	12.0	1277.7	1070.7	10.9	1.043
	13	14.0	1281.8	1074.8	12.6	0.982
	14	16.0	1284.8	1077.8	14.1	0.932
	15	18.0	1287.3	1080.3	15.7	0.886
	16	20.0	1289.2	1082.2	17.1	0.847
	17	22.0	1290.9	1083.9	18.6	0.811
	18	24.0	1293.0	1086.0	20.0	0.780
	19	26.0	1293.6	1086.7	21.4	0.752
	20	28.0	1295.0	1088.0	22.7	0.725
	21	30.0	1296.6	1089.6	24.0	0.701
	22	35.0	1299.1	1092.1	27.1	0.648
	23	40.0	1301.1	1094.1	30.0	0.604
	24	45.0	1302.5	1095.5	32.8	0.566
	25	50.0	1303.6	1096.6	35.3	0.533
	26	55.0	1304.7	1097.7	37.8	0.504
	27	60.0	1305.8	1098.8	40.1	0.479
	28	70.0	1307.7	1100.7	44.3	0.435
	29	80.0	1309.4	1102.4	48.1	0.399
G	30	89.9	1310.9	1103.9	51.5	0.369

REMARKS:

TICKET NO: 58155000

CLOCK NO: 7046 HOUR: 12

HALLIBURTON SERVICES

GAUGE NO: 6144

DEPTH: 4631.0

FIRST FLOW

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
B	1	0.0	24.2			
	2	3.0	25.8	1.6		
	3	6.0	34.5	8.7		
	4	9.0	43.4	8.8		
	5	12.0	52.5	9.1		
	6	15.0	60.3	7.8		
	7	18.0	68.5	8.1		
	8	21.0	74.9	6.4		
	9	24.0	80.9	6.0		
	10	27.0	86.1	5.3		
	11	30.0	91.7	5.6		
	12	33.0	96.3	4.7		
	13	36.0	101.2	4.9		
	14	39.0	106.0	4.8		
	15	42.0	111.0	5.1		
C	16	45.7	117.6	6.5		

FIRST CLOSED-IN

C	1	0.0	117.6			
	2	1.0	987.7	870.2	1.0	1.652
	3	2.0	1186.0	1068.5	1.9	1.372
	4	3.0	1233.9	1116.3	2.8	1.213
	5	4.0	1254.4	1136.9	3.7	1.097
	6	5.0	1264.9	1147.3	4.5	1.006
	7	6.0	1273.2	1155.7	5.3	0.933
	8	7.0	1278.1	1160.6	6.0	0.879
	9	8.0	1282.5	1164.9	6.8	0.825
	10	9.0	1286.1	1168.6	7.6	0.782
	11	10.0	1288.5	1170.9	8.2	0.748
	12	12.0	1292.4	1174.9	9.5	0.682
	13	14.0	1296.4	1178.8	10.7	0.629
	14	16.0	1300.3	1182.7	11.9	0.586
	15	18.0	1303.6	1186.1	12.9	0.549
	16	20.0	1306.5	1188.9	13.9	0.516
	17	22.0	1308.5	1190.9	14.9	0.488
	18	24.0	1309.9	1192.4	15.7	0.463
	19	26.0	1311.4	1193.9	16.6	0.440
	20	28.0	1312.9	1195.3	17.4	0.420
	21	30.0	1314.4	1196.8	18.1	0.402
	22	35.0	1316.8	1199.3	19.8	0.363
	23	40.0	1318.4	1200.8	21.3	0.331
	24	45.0	1320.4	1202.8	22.7	0.304
	25	50.0	1321.8	1204.2	23.9	0.282
	26	55.0	1322.9	1205.4	25.0	0.263
D	27	59.4	1322.9	1205.4	25.8	0.248

SECOND FLOW

E	1	0.0	125.4			

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
	SECOND FLOW - CONTINUED					
	2	5.0	127.1	1.7		
	3	10.0	137.0	9.9		
	4	15.0	144.2	7.2		
	5	20.0	151.7	7.4		
	6	25.0	158.7	7.0		
	7	30.0	164.7	6.0		
	8	35.0	171.2	6.5		
	9	40.0	177.6	6.3		
	10	45.0	184.1	6.5		
	11	50.0	189.4	5.3		
	12	55.0	193.1	3.7		
	13	60.0	201.8	8.7		
	14	65.0	207.4	5.7		
	15	70.0	213.7	6.2		
F	16	74.9	219.7	6.1		

SECOND CLOSED-IN

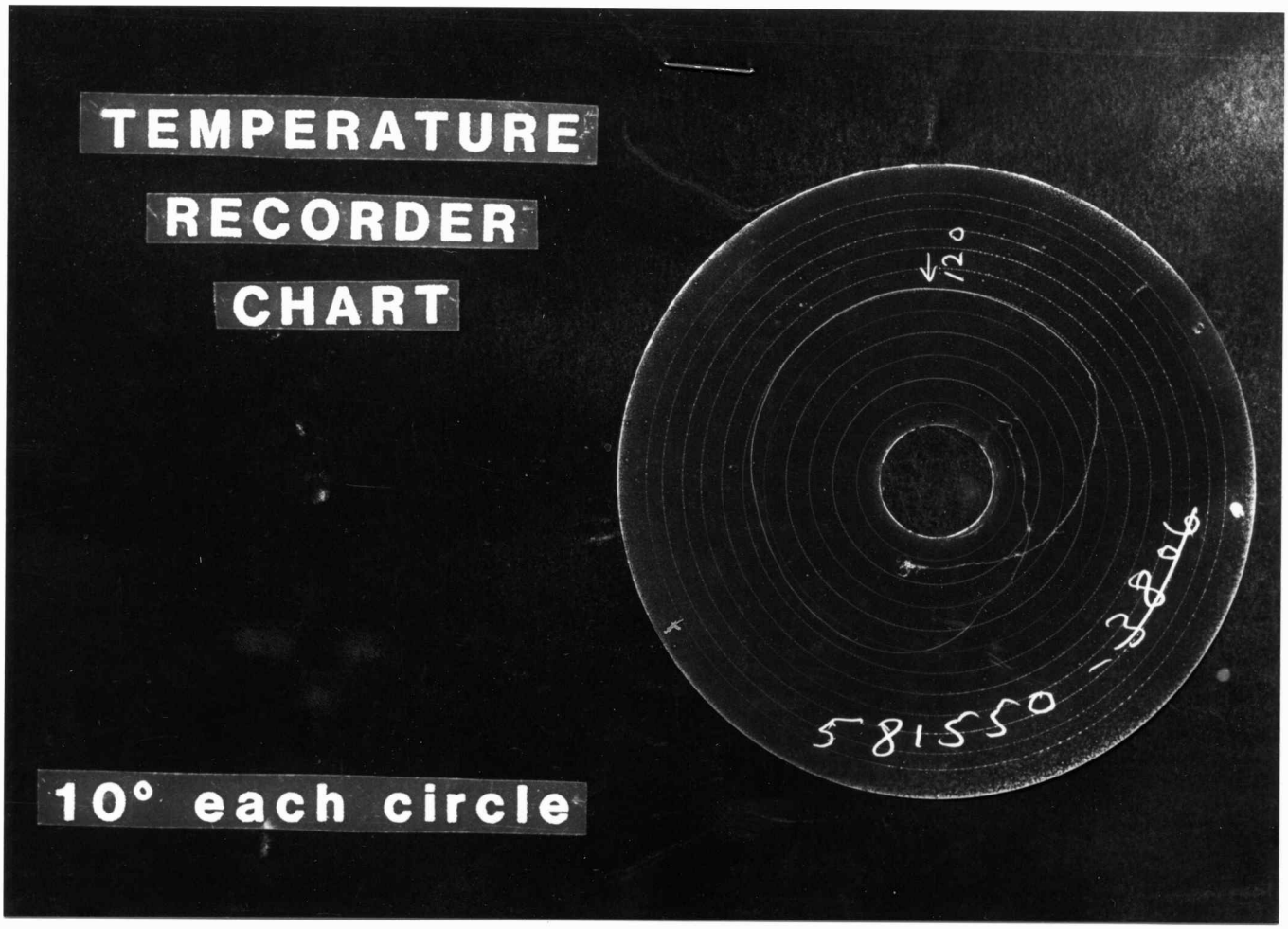
F	1	0.0	219.7			
	2	1.0	1030.3	810.6	1.0	2.086
	3	2.0	1174.3	954.6	2.0	1.788
	4	3.0	1226.1	1006.3	3.0	1.609
	5	4.0	1246.1	1026.3	3.9	1.493
	6	5.0	1257.6	1037.8	4.8	1.403
	7	6.0	1266.2	1046.5	5.7	1.323
	8	7.0	1271.7	1051.9	6.6	1.261
	9	8.0	1276.4	1056.6	7.5	1.205
	10	9.0	1280.0	1060.3	8.4	1.157
	11	10.0	1283.6	1063.8	9.2	1.116
	12	12.0	1288.5	1068.7	10.9	1.043
	13	14.0	1292.3	1072.6	12.5	0.984
	14	16.0	1295.7	1075.9	14.1	0.931
	15	18.0	1298.1	1078.4	15.7	0.886
	16	20.0	1300.7	1080.9	17.1	0.847
	17	22.0	1302.7	1082.9	18.6	0.811
	18	24.0	1304.2	1084.5	20.0	0.780
	19	26.0	1304.8	1085.1	21.4	0.751
	20	28.0	1305.1	1085.4	22.7	0.725
	21	30.0	1305.5	1085.8	24.1	0.700
	22	35.0	1311.1	1091.4	27.1	0.648
	23	40.0	1313.4	1093.6	30.0	0.604
	24	45.0	1315.4	1095.6	32.8	0.566
	25	50.0	1316.5	1096.8	35.4	0.533
	26	55.0	1317.4	1097.7	37.8	0.504
	27	60.0	1319.0	1099.3	40.1	0.479
	28	70.0	1320.6	1100.8	44.3	0.435
	29	80.0	1320.9	1101.1	48.1	0.399
G	30	89.9	1324.3	1104.6	51.5	0.369

REMARKS:

TICKET NO. 58155000

		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE.....	4.500	3.826	4028.0	
50	IMPACT REVERSING SUB.....	6.000	2.750	1.0	4029.0
4	FLEX WEIGHT.....	4.500	2.764	445.0	
3	DRILL COLLARS.....	6.250	2.250	117.0	
5	CROSSOVER.....	6.000	2.250	1.0	
11	HANDLING SUB & CHOKE ASSEMBLY...	5.750	3.750	5.0	
12	DUAL CIP VALVE.....	5.000	0.870	5.0	
60	HYDROSPRING TESTER.....	5.000	0.750	5.0	4606.0
80	AP RUNNING CASE.....	5.000	3.060	4.0	4608.0
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	4615.0
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	4621.0
20	FLUSH JOINT ANCHOR.....	0.500	2.370	5.0	
83	HT-500 TEMPERATURE CASE.....	5.000	2.440	2.0	4629.0
81	BLANKED-OFF RUNNING CASE.....	5.000		4.0	4631.0
	TOTAL DEPTH				4634.0

EQUIPMENT DATA



Indicated Flow Capacity	$kh = \frac{1637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG} \frac{kt}{\phi\ \mu\ c_t r_w^2} + 3.23 \right]$	—
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	$r_i = 0.032 \sqrt{\frac{kt}{\phi \mu c_t}}$	ft