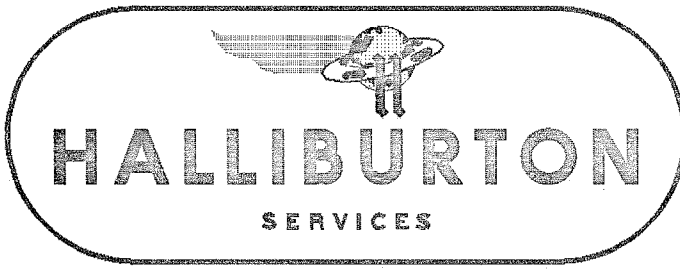
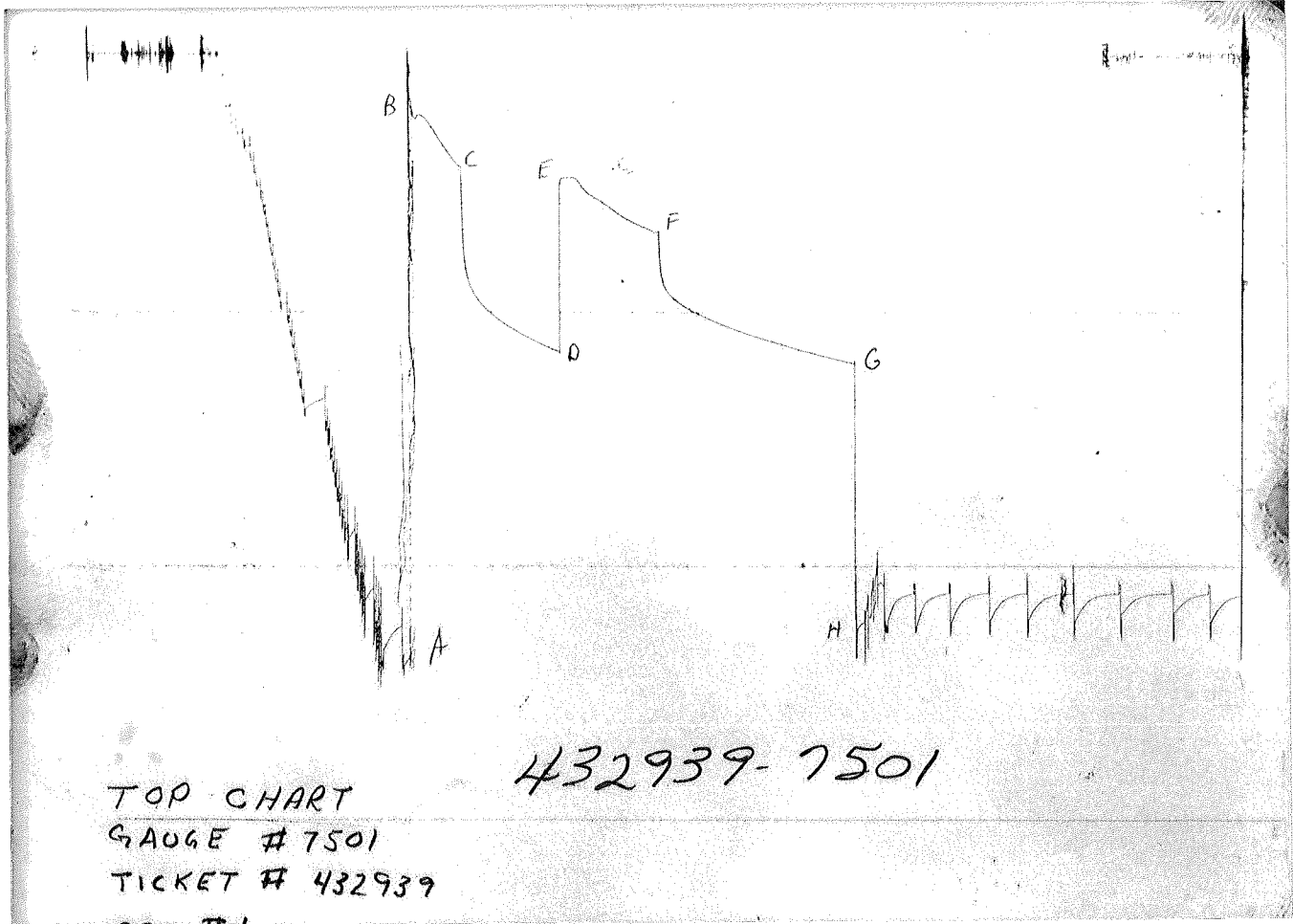


BARBY-HARPER
 LEASE NAME
 WELL NO. 6-22
 TEST NO. 1
 FIELD AREA SITKA
 COUNTY CLARK
 STATE KANSAS
 RINE DRILLING COMPANY
 LEASE OWNER/COMPANY NAME
 LEGAL LOCATION
 SEC. - TWP. - RANG. ~~21-34S-21W~~ 21W
 TESTED INTERVAL 4256.1 - 4307.1
 I/J



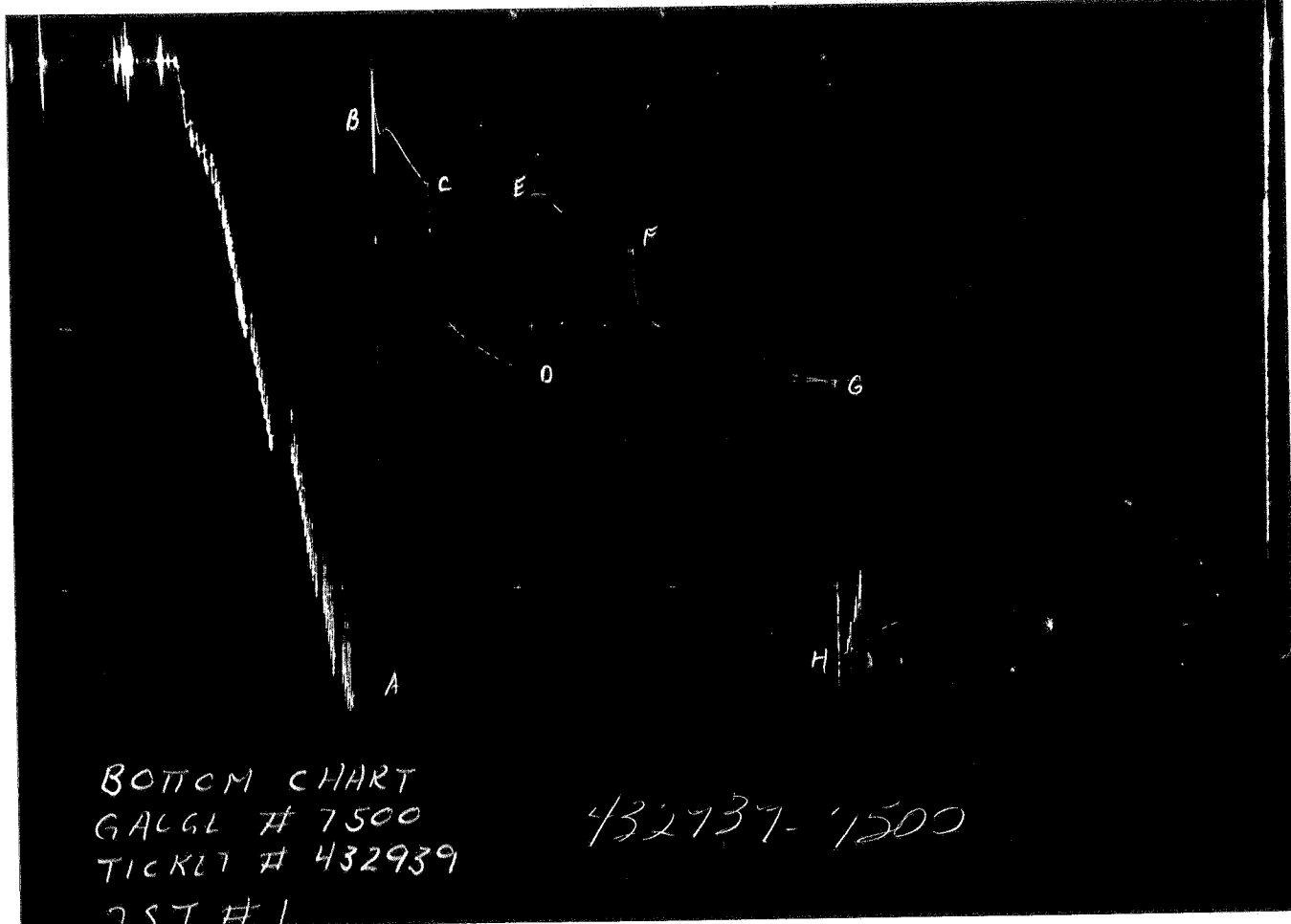
TICKET NO. 43293900
 09-JUN-82
 PRATT

FORMATION TESTING SERVICE REPORT



GAUGE NO: 7501 DEPTH: 4247.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2258.8			
B	INITIAL FIRST FLOW		121.8			
C	FINAL FIRST FLOW		441.5	30.0	31.4	F
C	INITIAL FIRST CLOSED-IN		441.5			
D	FINAL FIRST CLOSED-IN		1175.7	60.0	60.1	C
E	INITIAL SECOND FLOW		488.2			
F	FINAL SECOND FLOW		699.3	60.0	60.1	F
F	INITIAL SECOND CLOSED-IN		699.3			
G	FINAL SECOND CLOSED-IN		1217.7	120.0	118.4	C
H	FINAL HYDROSTATIC		2240.1			



BOTTOM CHART
 GAUGE # 7500
 TICKET # 432939
 TEST # 1

432737-1500

GAUGE NO: 7500 DEPTH: 4304.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2288.7			
B	INITIAL FIRST FLOW		139.4			
C	FINAL FIRST FLOW		465.2	30.0	31.4	F
C	INITIAL FIRST CLOSED-IN		465.2			
D	FINAL FIRST CLOSED-IN		1196.6	60.0	60.1	C
E	INITIAL SECOND FLOW		509.6			
F	FINAL SECOND FLOW		723.0	60.0	60.1	F
F	INITIAL SECOND CLOSED-IN		723.0			
G	FINAL SECOND CLOSED-IN		1240.4	120.0	118.4	C
H	FINAL HYDROSTATIC		2266.2			

EQUIPMENT & HOLE DATA

FORMATION TESTED: TORONTO

NET PAY (ft): 25.0

GROSS TESTED FOOTAGE: 41.0

ALL DEPTHS MEASURED FROM: KELLY BUSHING

CASING PERFS. (ft): _____

HOLE OR CASING SIZE (in): 7.875

ELEVATION (ft): 1780

TOTAL DEPTH (ft): 4307.0

PACKER DEPTH(S) (ft): 4260, 4266

FINAL SURFACE CHOKE (in): 0.250

BOTTOM HOLE CHOKE (in): 0.750

MUD WEIGHT (lb/gal): 10.10

MUD VISCOSITY (sec): 51

ESTIMATED HOLE TEMP. (°F): 113

ACTUAL HOLE TEMP. (°F): 95 @ 4302.0 ft

TICKET NUMBER: 43293900

DATE: 6-2-82 TEST NO: 1

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: PRATT

TESTER: ROBERT E. MARTIN

WITNESS: BILL SLADEK-GEOL.
JERRY YOUNG-PROD.FRM

DRILLING CONTRACTOR: RINE DRILLING RIG #1

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
<u>PIT</u>	<u> </u> @ <u> </u> °F	<u>36000</u> ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm

SAMPLER DATA

Pstg AT SURFACE: _____

cu.ft. OF GAS: _____

cc OF OIL: _____

cc OF WATER: _____

cc OF MUD: _____

TOTAL LIQUID cc: _____

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): 39.0 @ 60 °F

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

GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

1620 FEET OF FREE OIL.
180 FEET OF MUDDY SALTWATER.
4152 FEET OF GAS IN PIPE.

MEASURED FROM
TESTER VALVE

REMARKS:

TYPE & SIZE MEASURING DEVICE: _____				MERLA	TICKET NO: 43293900
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
6-2-82					
1020					CALLED OUT.
1150					LEFT CAMP.
1445					ON LOCATION, RIG PULLING PIPE.
1530					STARTED CLOCKS.
1600					PICKED UP TOOL.
1625					TOOL AT TABLE.
1645					TOOL THRU TABLE.
1847					TOOL ON BOTTOM.
1850					OPENED TOOL WITH BLOW OFF
					BOTTOM OF BUCKET.
1855					OPENED 2" LINE TO PIT.
1903	.125	2.0	3.92		GAS TO SURFACE IN 13 MINUTES.
1905	.125	3.0	4.84		
1910	.125	8.0	8.30		
1915	.125	14.0	11.60		
1920	.125	17.0	13.10		CLOSED TOOL.
2020					OPENED TOOL WITH GAS IMMEDIATE-
					LY, UNMEASURABLE.
2040	.125	1.0	2.76		
2045	.125	6.0	7.06		
2050	.125	8.0	8.30		
2055	.125	14.0	11.60		
2100	.125	16.0	12.50		
2105	.125	17.0	13.10		
2110	.125	18.0	13.50		
2115	.125	18.0	13.50		
2120	.125	18.0	13.50		FINAL SHUT IN PERIOD.
2320					TOOL OFF BOTTOM, BYPASS OPEN.
					TESTED INTERVAL 4266' TO 4307'
					SET BACK STANDS AND HANG UNTIL
					DAYLIGHT.
6-3-82					
0630					STARTED OUT OF HOLE WITH DST.
0745					DROPPED BAR AND REVERSED OUT.
0830					FINISHED REVERSING OUT AND
					STARTED OUT AGAIN.

TICKET NO: 43293900
 CLOCK NO: 6947 HOUR: 12



GAUGE NO: 7501
 DEPTH: 4247.0

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	121.8			
2	5.0	244.1	122.4		
3	10.0	250.0	5.9		
4	15.0	296.6	46.6		
5	20.0	351.4	54.8		
6	25.0	400.1	48.7		
C 7	31.4	441.5	41.4		
FIRST CLOSED-IN					
C 1	0.0	441.5			
2	4.0	889.0	447.5	3.6	0.944
3	8.0	948.8	507.4	6.4	0.693
4	12.0	984.1	542.6	8.7	0.558
5	16.0	1011.3	569.9	10.6	0.471
6	20.0	1032.8	591.4	12.2	0.410
7	24.0	1052.5	611.1	13.6	0.363
8	28.0	1070.5	629.1	14.8	0.327
9	32.0	1085.7	644.3	15.8	0.297
10	36.0	1100.6	659.1	16.8	0.272
11	40.0	1114.6	673.2	17.6	0.251
12	44.0	1127.7	686.3	18.3	0.234
13	48.0	1139.9	698.5	19.0	0.219
14	52.0	1151.5	710.0	19.6	0.205
15	56.0	1163.7	722.2	20.1	0.193
D 16	60.1	1175.7	734.2	20.6	0.182
SECOND FLOW					
E 1	0.0	488.2			
2	10.0	489.6	1.4		
3	20.0	558.1	68.5		
4	30.0	600.8	42.7		
5	40.0	646.6	45.8		
6	50.0	678.1	31.5		
F 7	60.1	699.3	21.2		
SECOND CLOSED-IN					
F 1	0.0	699.3			
2	8.0	958.6	259.3	7.3	1.095
3	16.0	997.3	298.0	13.6	0.827
4	24.0	1025.4	326.1	19.0	0.682
5	32.0	1048.7	349.4	23.7	0.586
6	40.0	1069.4	370.1	27.8	0.517
7	48.0	1089.6	390.2	31.5	0.463
8	56.0	1107.0	407.7	34.7	0.421
9	64.0	1123.9	424.6	37.7	0.386
10	72.0	1139.1	439.8	40.3	0.356

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN - CONTINUED					
11	80.0	1154.7	455.4	42.7	0.331
12	88.0	1169.7	470.4	44.9	0.310
13	96.0	1183.1	483.8	46.9	0.291
14	104.0	1197.1	497.8	48.7	0.274
15	112.0	1208.9	509.6	50.4	0.259
G 16	118.4	1217.7	518.4	51.6	0.249

REMARKS:

TICKET NO: 43293900
 CLOCK NO: 3004 HOUR: 12


















GAUGE NO: 7500
 DEPTH: 4304.0

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	139.4			
2	5.0	270.0	130.5		
3	10.0	272.0	2.1		
4	15.0	322.2	50.2		
5	20.0	377.3	55.1		
6	25.0	424.9	47.6		
C 7	31.4	465.2	40.3		
FIRST CLOSED-IN					
C 1	0.0	465.2			
2	4.0	899.7	434.5	3.5	0.949
3	8.0	967.1	502.0	6.4	0.690
4	12.0	1003.9	538.7	8.7	0.558
5	16.0	1031.3	566.1	10.6	0.471
6	20.0	1053.7	588.5	12.2	0.410
7	24.0	1072.9	607.7	13.6	0.363
8	28.0	1089.3	624.2	14.8	0.326
9	32.0	1107.8	642.6	15.8	0.297
10	36.0	1123.6	658.4	16.8	0.272
11	40.0	1137.5	672.3	17.6	0.251
12	44.0	1149.8	684.6	18.3	0.234
13	48.0	1161.4	696.2	19.0	0.218
14	52.0	1171.8	706.7	19.6	0.205
15	56.0	1183.9	718.7	20.1	0.193
D 16	60.1	1196.6	731.4	20.6	0.182
SECOND FLOW					
E 1	0.0	509.6			
2	10.0	513.7	4.1		
3	20.0	584.5	70.8		
4	30.0	626.7	42.1		
5	40.0	671.0	44.4		
6	50.0	704.3	33.3		
F 7	60.1	723.0	18.7		
SECOND CLOSED-IN					
F 1	0.0	723.0			
2	8.0	979.6	256.6	7.3	1.097
3	16.0	1021.5	298.5	13.6	0.827
4	24.0	1048.7	325.8	19.0	0.682
5	32.0	1069.9	346.9	23.7	0.587
6	40.0	1094.2	371.2	27.8	0.517
7	48.0	1112.7	389.8	31.5	0.463
8	56.0	1128.2	405.2	34.7	0.421
9	64.0	1146.6	423.6	37.7	0.386
10	72.0	1162.0	439.1	40.3	0.356

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN - CONTINUED					
11	80.0	1176.2	453.3	42.7	0.331
12	88.0	1190.3	467.3	44.9	0.310
13	96.0	1207.2	484.2	46.9	0.291
14	104.0	1218.0	495.0	48.7	0.274
15	112.0	1230.1	507.1	50.4	0.259
G 16	118.4	1240.4	517.4	51.6	0.249

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	3602.0	
3		DRILL COLLARS.....	6.250	2.250	450.0	
50		IMPACT REVERSING SUB.....	5.625	2.000	1.0	4052.0
3		DRILL COLLARS.....	6.250	2.250	180.0	
5		CROSSOVER.....	6.250	2.250	1.0	
12		DUAL CIP VALVE.....	5.000	0.870	5.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	4239.0
80		AP RUNNING CASE.....	5.000	3.060	4.0	4247.0
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.0	
70		OPEN HOLE PACKER.....	6.750	1.530	6.0	4260.0
70		OPEN HOLE PACKER.....	6.750	1.530	6.0	4266.0
20		FLUSH JOINT ANCHOR.....	5.000	2.370	34.0	
83		HT-500 TEMPERATURE CASE.....	5.000	2.250	1.0	4302.0
81		BLANKED-OFF RUNNING CASE.....	5.000	3.060	4.0	4304.0
TOTAL DEPTH					4307.0	

EQUIPMENT DATA

TEMPERATURE RECORDER CHART

TICKET #
432939
DST #1



95°F

10° each circle

Indicated Flow
Capacity

$$kh = \frac{1637 Q_g T}{m}$$

md-ft

Average Effective
Permeability

$$k = \frac{kh}{h}$$

md

Skin Factor

$$S = 1.151 \left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG} \frac{kt}{\phi \mu c_t r_w^2} + 3.23 \right] \text{ ---}$$

Damage Ratio

$$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87 mS} \text{ ---}$$

Indicated Flow
Rate (Maximum)

$$AOF_1 = \frac{Q_g m(P^*)}{m(P^*) - m(P_f)} \text{ MCFD}$$

Indicated Flow
Rate (Minimum)

$$AOF_2 = Q_g \sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}} \text{ MCFD}$$

Approx. Radius of
Investigation

$$r_i = 0.032 \sqrt{\frac{kt}{\phi \mu c_t}} \text{ ft}$$