



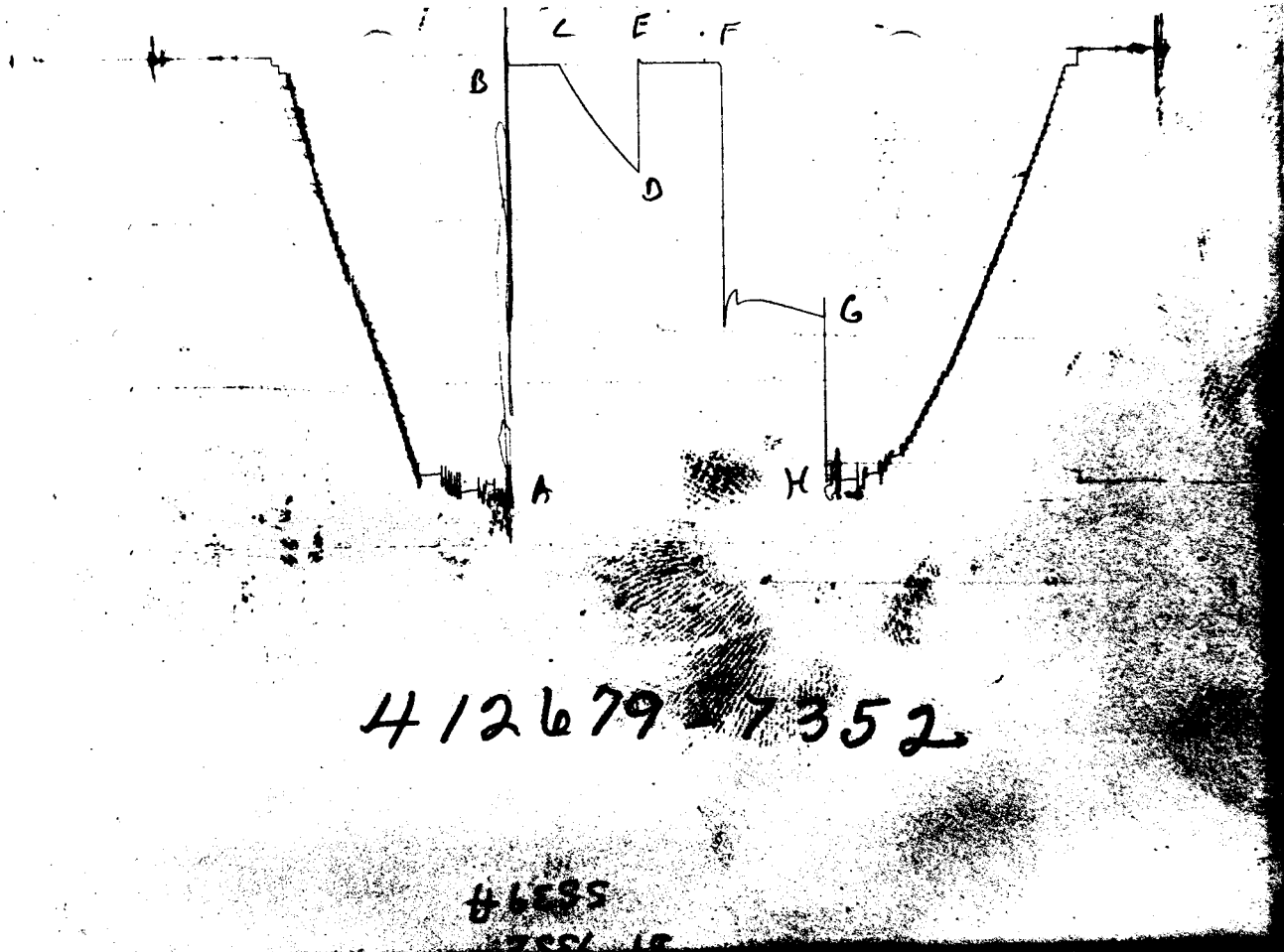
TICKET NO. 41267900

31-AUG-82

LIBERAL

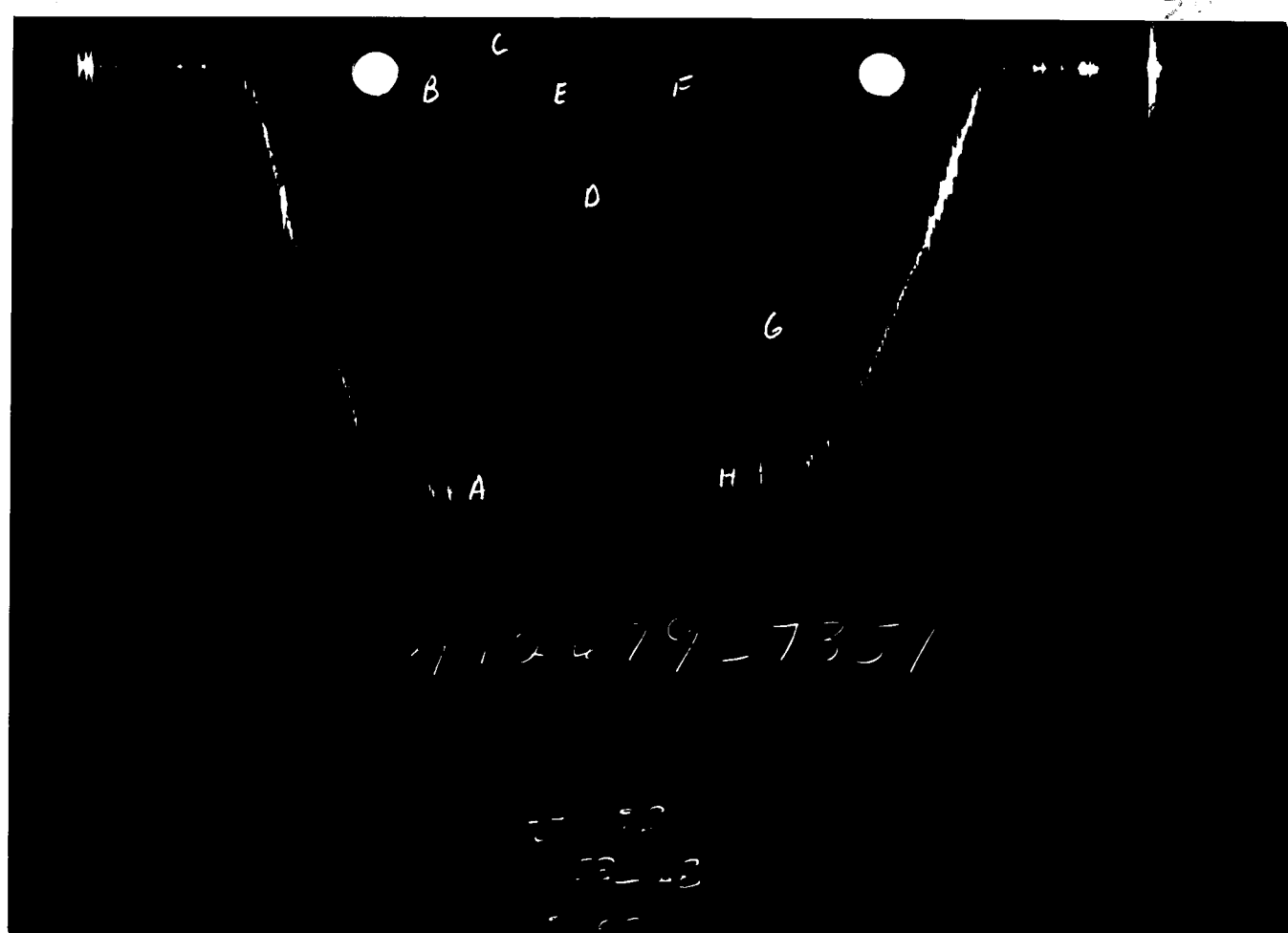
FORMATION TESTING SERVICE REPORT

ADAMS	1-32	1	5562.1 - 5614.1	TEXAS ENERGIES, INCORPORATED
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
LEGAL LOCATION SEC. - TWP. - RNG.	32-34-29	FIELD AREA	10 MILES S. OF MEADE	COUNTY
			MEADE	STATE
			KANSAS	DR/IC



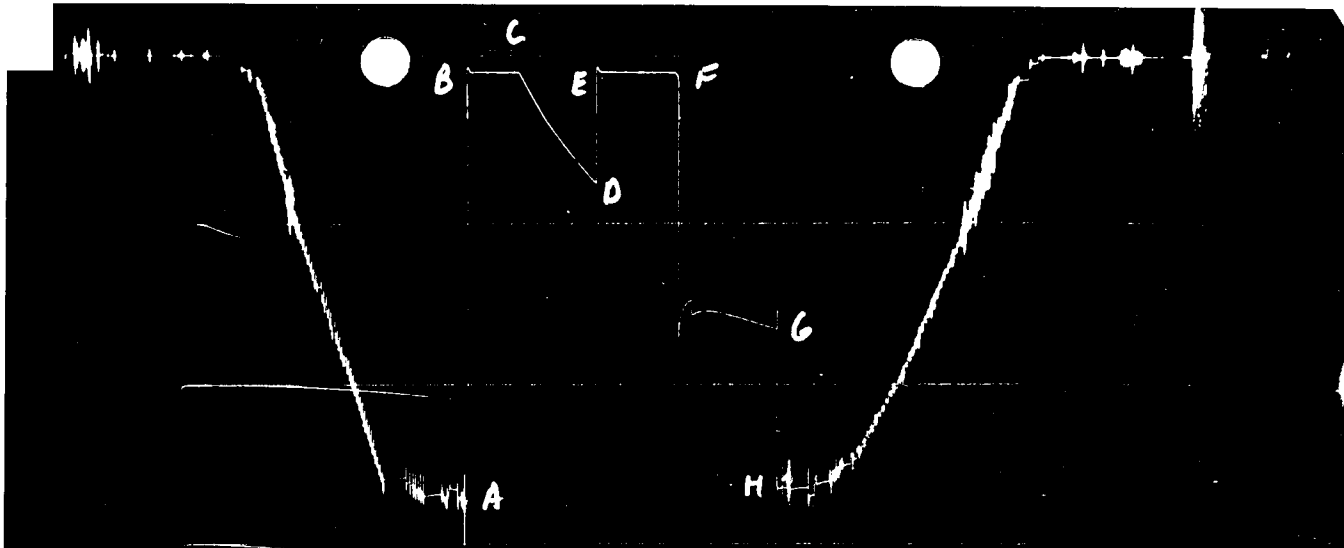
GAUGE NO: 7352 DEPTH: 5539.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2674.1			
B	INITIAL FIRST FLOW		48.7			
C	FINAL FIRST FLOW		64.9	30.0	30.3	F
C	INITIAL FIRST CLOSED-IN		64.9			
D	FINAL FIRST CLOSED-IN		731.5	45.0	44.6	C
E	INITIAL SECOND FLOW		40.5			
F	FINAL SECOND FLOW		64.0	45.0	45.5	F
F	INITIAL SECOND CLOSED-IN		64.0			
G	FINAL SECOND CLOSED-IN		1626.0	60.0	59.6	C
H	FINAL HYDROSTATIC		2619.9			



GAUGE NO: 7351 DEPTH: 5611.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2719.1			
B	INITIAL FIRST FLOW		67.8			
C	FINAL FIRST FLOW		97.5	30.0	30.3	F
C	INITIAL FIRST CLOSED-IN		97.5			
D	FINAL FIRST CLOSED-IN		765.3	45.0	44.6	C
E	INITIAL SECOND FLOW		64.6			
F	FINAL SECOND FLOW		94.9	45.0	45.5	F
F	INITIAL SECOND CLOSED-IN		94.9			
G	FINAL SECOND CLOSED-IN		1661.9	60.0	59.6	C
H	FINAL HYDROSTATIC		2654.6			



412679-7351

412679-7351
BT 7351
SC 11 94

EQUIPMENT & HOLE DATA

FORMATION TESTED: _____
NET PAY (ft): _____
GROSS TESTED FOOTAGE: _____ 52.0
ALL DEPTHS MEASURED FROM: _____ KELLY BUSHING
CASING PERFS. (ft): _____
HOLE OR CASING SIZE (in): _____
ELEVATION (ft): _____ 0
TOTAL DEPTH (ft): _____ 5614.0
PACKER DEPTH(S) (ft): _____ 5554, 5562
FINAL SURFACE CHOKE (in): _____
BOTTOM HOLE CHOKE (in): _____ 0.750
MUD WEIGHT (lb/gal): _____ 9.10
MUD VISCOSITY (sec): _____ 48
ESTIMATED HOLE TEMP. (°F): _____ 140
ACTUAL HOLE TEMP. (°F): _____ @ _____ ft

TICKET NUMBER: 41267900

DATE: 8-24-82 TEST NO: 1

TYPE DST: _____ OPEN HOLE

HALLIBURTON CAMP: _____
LIBERAL

TESTER: _____ HEMINGWAY

WITNESS: _____ R. D. HARPER

DRILLING CONTRACTOR: _____
WHEATSTATE DRILLING #2

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	1.140 @ 76 °F	3376 ppm
TOP OF RECOVERY	1.090 @ 76 °F	3858 ppm
BOTTOM OF RECOVERY	1.200 @ 76 °F	2893 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): _____ @ _____ °F
GAS/OIL RATIO (cu.ft. per bbl): _____
GAS GRAVITY: _____

CUSHION DATA

TYPE AMOUNT WEIGHT

RECOVERED:

96 FEET OF MUD

MEASURED FROM
TESTER VALVE

REMARKS:

SECOND CLOSED IN PRESSURE IS QUESTIONABLE DUE TO CUT O-RING ON CIP VALVE.

TYPE & SIZE MEASURING DEVICE: _____ TICKET NO: 41267900

TICKET NO: 41267900[illegible]

TICKET NO: 41267900
CLOCK NO: 6524 HOUR: 12



GAUGE NO: 7352
DEPTH: 5539.0

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	48.7			
2	5.0	66.5	17.8		
3	10.0	66.5	0.0		
4	15.0	65.7	-0.8		
5	20.0	65.7	0.0		
6	25.0	65.7	0.0		
C 7	30.3	64.9	-0.8		
FIRST CLOSED-IN					
C 1	0.0	64.9			
2	4.0	147.3	82.4	3.5	0.934
3	8.0	224.4	159.5	6.3	0.679
4	12.0	292.2	227.3	8.6	0.548
5	16.0	356.7	291.7	10.5	0.461
6	20.0	417.6	352.7	12.1	0.400
7	24.0	475.9	411.0	13.4	0.354
8	28.0	530.1	465.2	14.6	0.318
9	32.0	583.3	518.4	15.6	0.289
10	36.0	632.0	567.1	16.4	0.265
11	40.0	679.0	614.1	17.2	0.245
D 12	44.6	731.5	666.6	18.0	0.225
SECOND FLOW					
E 1	0.0	40.5			
2	9.0	63.2	22.7		
3	18.0	63.2	0.0		
4	27.0	63.2	0.0		
5	36.0	63.2	0.0		
F 6	45.5	64.0	0.8		
SECOND CLOSED-IN					
F 1	0.0	64.0			
G 2	59.6	1626.0	1562.1	33.4	0.356

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

REMARKS:

TICKET NO: 41267900

CLOCK NO: 2596 HOUR: 12



GAUGE NO: 7351

DEPTH: 5611.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$	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	67.8								
	2	5.0	96.5	28.7							
	3	10.0	96.5	0.0							
	4	15.0	96.5	0.0							
	5	20.0	96.5	0.0							
	6	25.1	96.5	0.0							
C	7	30.3	97.5	1.0							
FIRST CLOSED-IN											
C	1	0.0	97.5								
	2	4.0	176.9	79.5	3.5	0.936					
	3	8.0	252.4	154.9	6.3	0.679					
	4	12.0	325.0	227.5	8.6	0.547					
	5	16.0	391.4	293.9	10.5	0.461					
	6	20.0	452.2	354.8	12.0	0.400					
	7	24.0	507.4	410.0	13.4	0.354					
	8	28.0	563.1	465.6	14.5	0.318					
	9	32.0	613.9	516.4	15.6	0.289					
	10	36.0	661.8	564.4	16.5	0.265					
	11	40.0	713.9	616.4	17.2	0.245					
D	12	44.6	765.3	667.8	18.0	0.225					
SECOND FLOW											
E	1	0.0	64.6								
	2	9.0	94.7	30.1							
	3	18.0	94.7	0.0							
	4	27.0	94.7	0.0							
	5	36.0	94.7	0.0							
F	6	45.5	94.9	0.2							
SECOND CLOSED-IN											
F	1	0.0	94.9								
G	2	59.6	1661.9	1567.0	33.4	0.356					

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	5331.0	
50		IMPACT REVERSING SUB.....	6.250	2.250	1.0	5332.0
3		DRILL COLLARS.....	6.250	2.250	189.0	
5		CROSSOVER.....	6.000	2.500	1.0	
11		HANDLING SUB & CHOKE ASSEMBLY...	5.000	3.826	5.0	
13		DUAL CIP SAMPLER.....	5.000	0.780	7.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	5537.0
80		AP RUNNING CASE.....	5.000	3.060	4.0	5539.0
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.0	
70		OPEN HOLE PACKER.....	5.000	1.530	6.0	5554.0
70		OPEN HOLE PACKER.....	5.000	1.530	6.0	5562.0
20		FLUSH JOINT ANCHOR.....	5.000	2.500	6.0	
3		DRILL COLLARS.....	6.250	2.250	32.0	
5		CROSSOVER.....	6.000	2.500	1.0	
5		CROSSOVER.....	6.000	2.500	1.0	
20		FLUSH JOINT ANCHOR.....	5.000	2.500	6.0	
81		BLANKED-OFF RUNNING CASE.....	5.000	2.440	4.0	5611.0
TOTAL DEPTH						5614.0

EQUIPMENT DATA



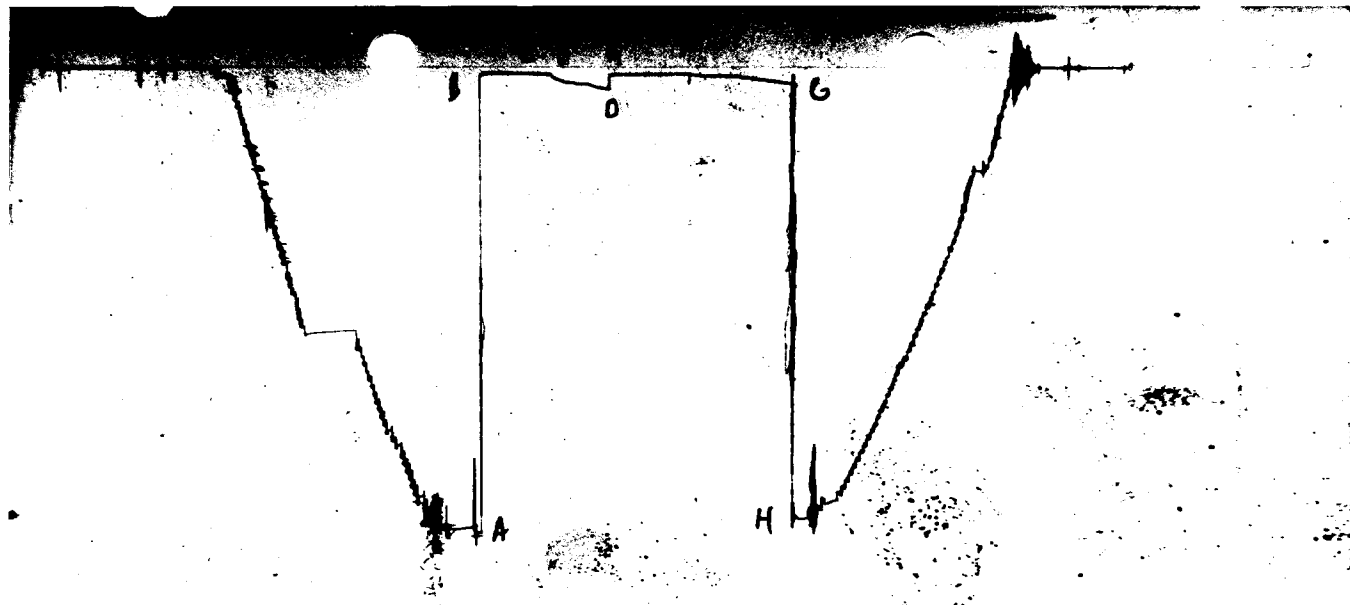
TICKET NO. 18408900
 30-AUG-82
 LIBERAL

FORMATION TESTING SERVICE REPORT

LEASE NAME	ADAMS	WELL NO.	1-32	TEST NO.	2	TESTED INTERVAL	5818.1 - 5905.1	LEASE OWNER/COMPANY NAME	TEXAS ENERGIES INCORPORATED
LEGAL LOCATION SEC. - TWP. - RNG.	32-34S-29W	FIELD AREA	ADAMS RANCH	COUNTY	MEADE	STATE	KANSAS	DR/IC	

GAUGE NO: 7503 DEPTH: 5797.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2822.3			
B	INITIAL FIRST FLOW		55.0			
C	FINAL FIRST FLOW		38.9	30.0	30.0	F
C	INITIAL FIRST CLOSED-IN		38.9			
D	FINAL FIRST CLOSED-IN		131.3	45.0	45.0	C
E	INITIAL SECOND FLOW		56.6			
F	FINAL SECOND FLOW		44.0	45.0	45.0	F
F	INITIAL SECOND CLOSED-IN		44.0			
G	FINAL SECOND CLOSED-IN		100.6	61.0	61.0	C
H	FINAL HYDROSTATIC		2772.8			

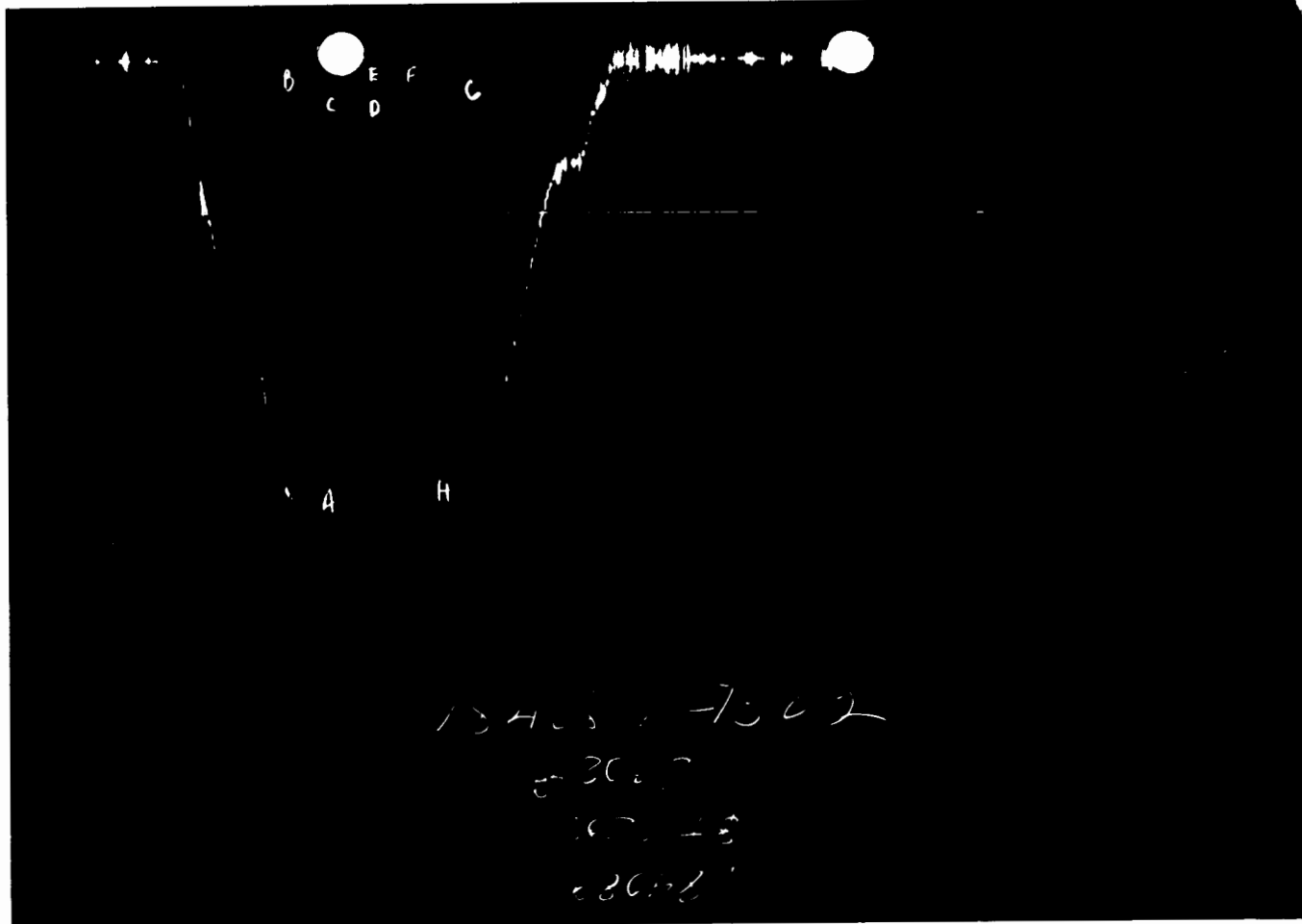


184089-7503

H 66LS
19 80SL

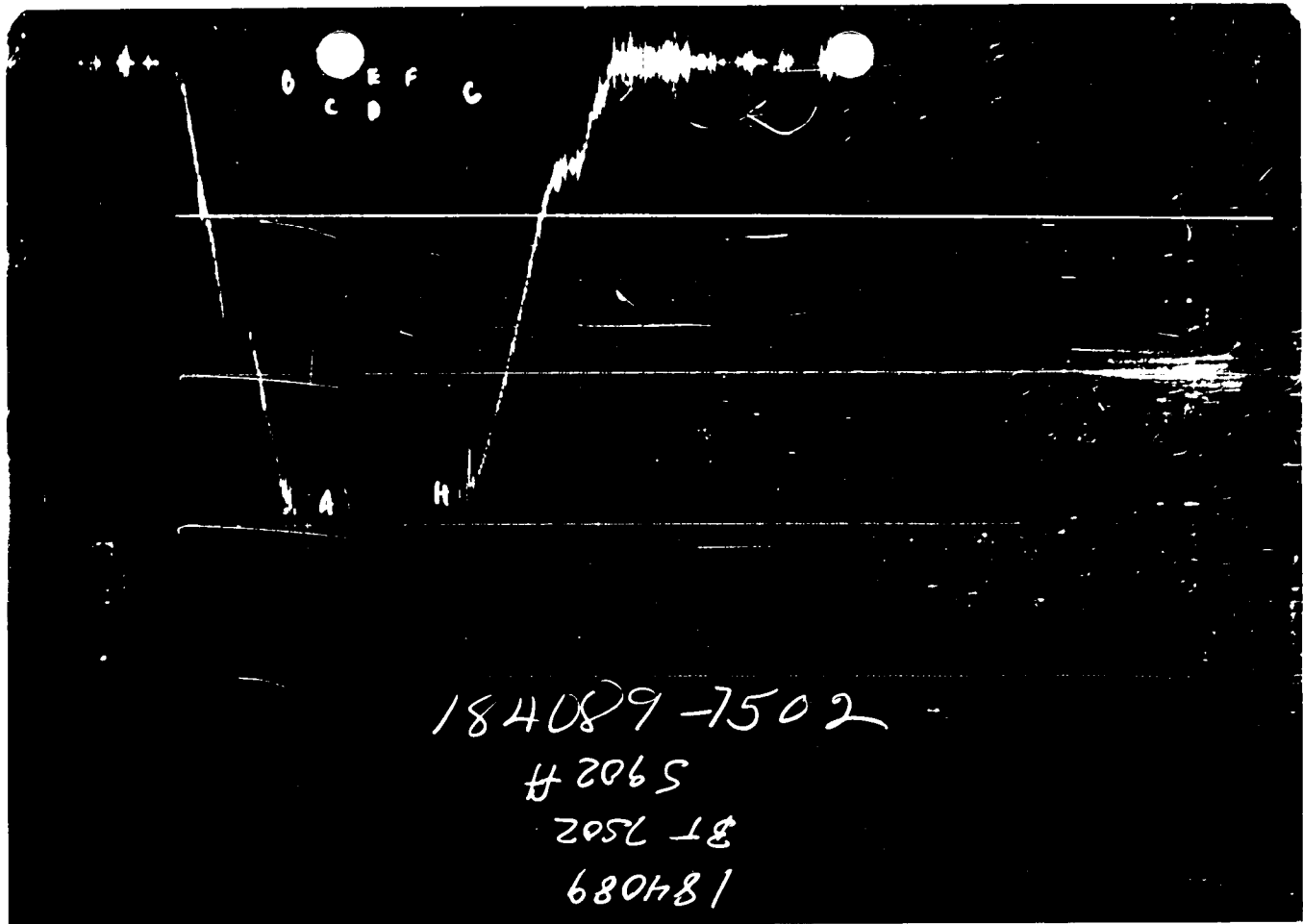
GAUGE NO: 7503 DEPTH: 5797.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2822.3			
B	INITIAL FIRST FLOW		55.0			
C	FINAL FIRST FLOW		38.9	30.0	30.0	F
C	INITIAL FIRST CLOSED-IN		38.9			
D	FINAL FIRST CLOSED-IN		131.3	45.0	45.0	C
E	INITIAL SECOND FLOW		56.6			
F	FINAL SECOND FLOW		44.0	45.0	45.0	F
F	INITIAL SECOND CLOSED-IN		44.0			
G	FINAL SECOND CLOSED-IN		100.6	61.0	61.0	C
H	FINAL HYDROSTATIC		2772.6			



GAUGE NO: 7502 DEPTH: 5902.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2868.1			
B	INITIAL FIRST FLOW		97.4			
C	FINAL FIRST FLOW		171.4	30.0	30.0	F
C	INITIAL FIRST CLOSED-IN		171.4			
D	FINAL FIRST CLOSED-IN		186.7	45.0	45.0	C
E	INITIAL SECOND FLOW		171.4			
F	FINAL SECOND FLOW		165.0	45.0	45.0	F
F	INITIAL SECOND CLOSED-IN		165.0			
G	FINAL SECOND CLOSED-IN		198.1	61.0	61.0	C
H	FINAL HYDROSTATIC		2821.9			



184089-7502

#2065

2056 LG

680481

OF
ME
SECRET

EQUIPMENT & HOLE DATA

FORMATION TESTED: MORROW

NET PAY (ft): _____

GROSS TESTED FOOTAGE: 87.0

ALL DEPTHS MEASURED FROM: KELLY BUSHING

CASING PERFS. (ft): _____

HOLE OR CASING SIZE (in): 7.875

ELEVATION (ft): 2522

TOTAL DEPTH (ft): 5905.0

PACKER DEPTH(S) (ft): 5812, 5818

FINAL SURFACE CHOKE (in): _____

BOTTOM HOLE CHOKE (in): 0.750

MUD WEIGHT (lb/gal): 9.10

MUD VISCOSITY (sec): 51

ESTIMATED HOLE TEMP. (°F): _____

ACTUAL HOLE TEMP. (°F): 119 @ 5901.0 ft

TICKET NUMBER: 18408900DATE: 8-26-82 TEST NO: 2TYPE DST: OPEN HOLEHALLIBURTON CAMP:
LIBERALTESTER: HASSWITNESS: R. D. HARPERDRILLING CONTRACTOR:
WHEATSTATE DRILLING #2FLUID PROPERTIES FOR
RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT (MUD REPORT)	_____ @ _____ °F	<u>3000</u> ppm
RECOVERY	<u>0.794</u> @ <u>86</u> °F	<u>3870</u> 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): _____ @ _____ °F

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

GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

40 FEET OF DRILLING MUD

MEASURED FROM
TESTER VALVE

REMARKS:

CHARTS INDICATE PLUGGING DURING THE INITIAL FLOW PERIOD AND POSSIBLE PLUGGING DURING FINAL FLOW PERIOD IN THE ANCHOR PERFORATIONS.

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	5593.0	
50		IMPACT REVERSING SUB.....	6.000	2.500	1.0	5594.0
1		DRILL PIPE.....	4.500	3.826	62.0	
3		DRILL COLLARS.....	6.250	2.250	124.0	
5		CROSSOVER.....	6.000	2.500	1.0	
11		HANDLING SUB & CHOKE ASSEMBLY...	4.500	3.826	5.0	
12		DUAL CIP VALVE.....	5.000	0.870	5.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	5795.0
80		AP RUNNING CASE.....	5.000	3.060	4.0	5797.0
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	5812.0
70		OPEN HOLE PACKER.....	6.750	1.530	6.0	5818.0
20		FLUSH JOINT ANCHOR.....	5.000	2.500	7.0	
20		FLUSH JOINT ANCHOR.....	5.000	2.500	1.0	
3		DRILL COLLARS.....	6.250	2.250	62.0	
5		CROSSOVER.....	6.000	2.500	1.0	
5		CROSSOVER.....	6.000	2.500	1.0	
20		FLUSH JOINT ANCHOR.....	5.000	2.500	8.0	
83		HT-500 TEMPERATURE CASE.....	5.000		1.0	5901.0
81		BLANKED-OFF RUNNING CASE.....	5.000	2.440	4.0	5902.0
TOTAL DEPTH					5905.0	

EQUIPMENT DATA

EQUIPMENT DATA

TEMPERATURE RECORDER CHART

* 184089

← 119°

10° each circle

Indicated Flow
Capacity

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

md-ft

Average Effective
Permeability

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

md

Skin Factor

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

Damage Ratio

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

Indicated Flow
Rate (Maximum)

$$AOF_1 = \frac{Q_a m(P^*)}{m(P^*) - m(P_f)}$$

MCFD

Indicated Flow
Rate (Minimum)

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

MCFD

Approx. Radius of
Investigation

$$r_i = 0.032 \sqrt{\frac{kt}{\phi \mu c}}$$

ft

[REDACTED]

[REDACTED]

CHART



10° each circle

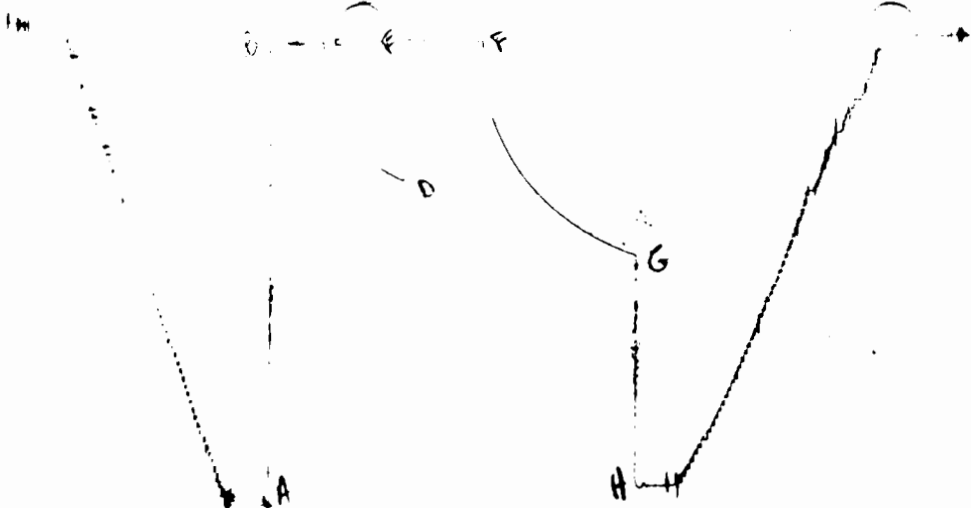
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TICKET NO. 18409000
02-SEP-82
LIBERAL

FORMATION TESTING SERVICE REPORT

ADAMS	1-32	3	5897.1 - 5995.1	TEXAS ENERGIES, INCORPORATED
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
LEGAL LOCATION SEC. - TWP. - RNG.	32-34S-29W	FIELD AREA	ADAMS RANCH	COUNTY
			MEADE	STATE
				KANSAS
				ORBC



184090-7503

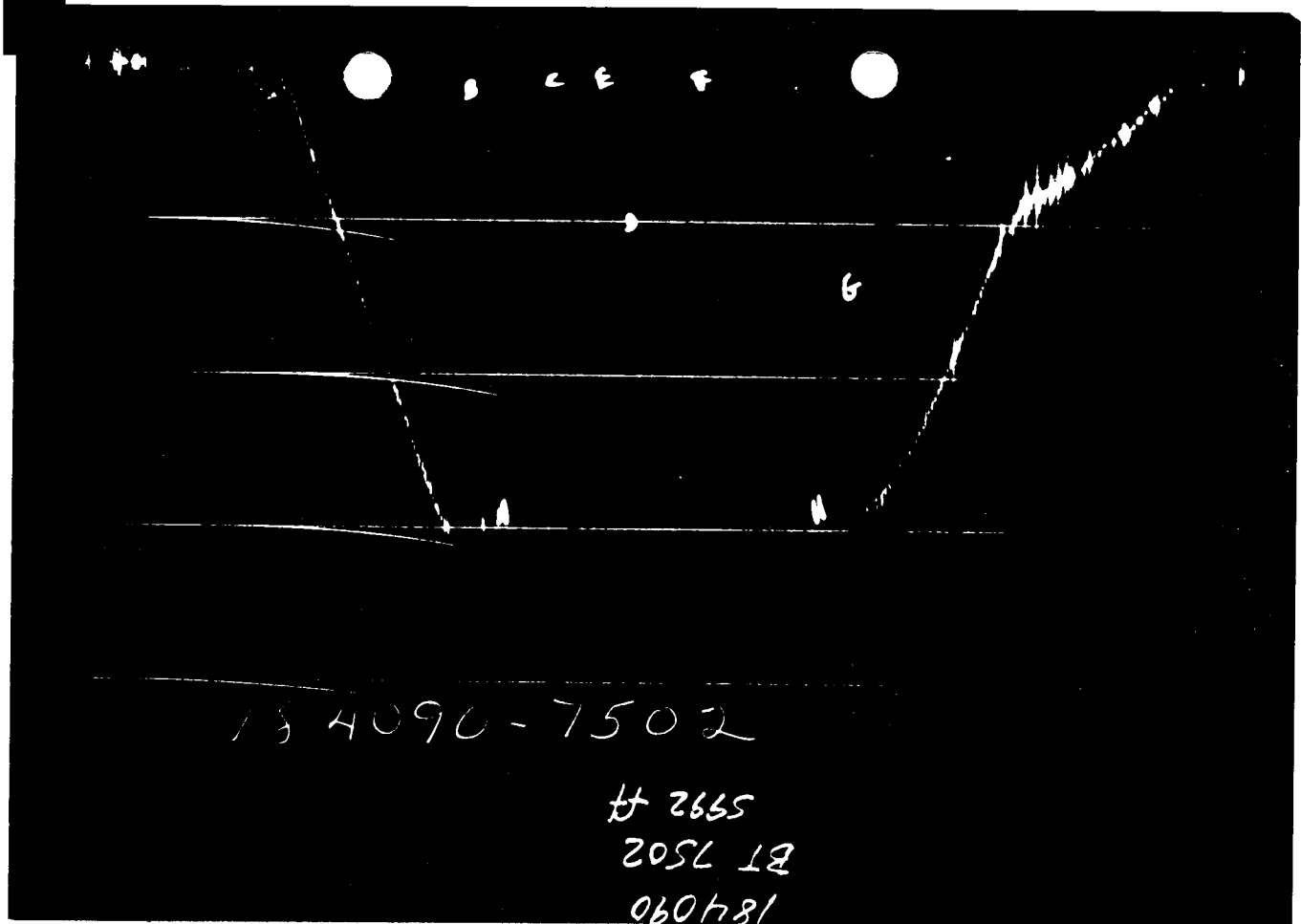
H 9689
E05/18

GAUGE NO: 7503 DEPTH: 5876.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2855.6			
B	INITIAL FIRST FLOW		134.7			
C	FINAL FIRST FLOW		90.3	31.0	30.9	F
C	INITIAL FIRST CLOSED-IN		90.3			
D	FINAL FIRST CLOSED-IN		930.6	44.0	45.6	C
E	INITIAL SECOND FLOW		77.1			
F	FINAL SECOND FLOW		70.8	45.0	45.6	F
F	INITIAL SECOND CLOSED-IN		70.8			
G	FINAL SECOND CLOSED-IN		1371.7	90.0	87.9	C
H	FINAL HYDROSTATIC		2804.5			

GAUGE NO: 7502 DEPTH: 5992.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2916.9			
B	INITIAL FIRST FLOW		207.1			
C	FINAL FIRST FLOW		123.5	31.0	30.9	F
C	INITIAL FIRST CLOSED-IN		123.5			
D	FINAL FIRST CLOSED-IN		980.4	44.0	45.6	C
E	INITIAL SECOND FLOW		106.9			
F	FINAL SECOND FLOW		106.9	45.0	45.6	F
F	INITIAL SECOND CLOSED-IN		106.9			
G	FINAL SECOND CLOSED-IN		1409.6	90.0	87.9	C
H	FINAL HYDROSTATIC		2866.6			



GRADE NO: 1112 DEPTH: 11.11 50000 OFF: 11.11 HOUR OF CLOCK: 11.11

NO	DESCRIPTION	PRESSURE		TIME	
		DEPTH	CALCULATED	DEPTH	CALCULATED
A	INITIAL PRESSURE		216.9		
B	INITIAL PRESSURE		207.1	84.0	30.0
C	INITIAL PRESSURE		123.5		
D	INITIAL PRESSURE		123.5	40.0	45.0
E	INITIAL PRESSURE		930.4		
F	INITIAL PRESSURE		106.9	40.0	45.0
G	INITIAL PRESSURE		106.9		
H	INITIAL PRESSURE		106.9	50.0	87.0
I	INITIAL PRESSURE		1473.9		
J	INITIAL PRESSURE		2166.8		

EQUIPMENT & HOLE DATA

FORMATION TESTED: SEE REMARKS
 NET PAY (ft): _____
 GROSS TESTED FOOTAGE: 98.0
 ALL DEPTHS MEASURED FROM: KB
 CASING PERFS. (ft): _____
 HOLE OR CASING SIZE (in): 7.875
 ELEVATION (ft): 2522
 TOTAL DEPTH (ft): 5995.0
 PACKER DEPTH(S) (ft): 5891, 5897
 FINAL SURFACE CHOKE (in): 0.625
 BOTTOM HOLE CHOKE (in): 0.750
 MUD WEIGHT (lb/gal): 9.20
 MUD VISCOSITY (sec): 55
 ESTIMATED HOLE TEMP. (°F): _____
 ACTUAL HOLE TEMP. (°F): 115 @ 5991.0 ft

TICKET NUMBER: 18409000

DATE: 8-27-82 TEST NO: 3

TYPE DST: OPEN HOLE

HALLIBURTON CAMP:
LIBERAL

TESTER: HASS

WITNESS: HARPER

DRILLING CONTRACTOR:
WHEATSTATE DRILLING #2

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT (MUD REPORT)	<u>0</u> °F	<u>3500</u> ppm
TOP OF RECOVERY	<u>0.732 @ 72</u> °F	<u>5322</u> ppm
TOP OF TOOL	<u>0.660 @ 72</u> °F	<u>5806</u> ppm
	<u>0</u> °F	<u></u> ppm
	<u>0</u> °F	<u></u> ppm
	<u>0</u> °F	<u></u> 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): _____ @ _____ °F
 GAS/OIL RATIO (cu.ft. per bbl): _____
 GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

113' OF DRILLING MUD

MEASURED FROM
TESTER VALVE

REMARKS:

FORMATION TESTED = LOWER MORROW & CHESTER

[illegible]

TICKET NO: 18409000
CLOCK NO: 17058 HOUR: 12



GAUGE NO: 7503
DEPTH: 5876.0

REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	134.7			
2	3.0	84.4	-50.3		
3	6.0	84.4	0.0		
4	9.0	89.5	5.2		
5	12.0	95.3	5.8		
6	15.0	98.5	3.2		
7	18.0	98.5	0.0		
8	21.0	96.6	-1.9		
9	24.0	95.0	-1.6		
10	27.0	93.5	-1.5		
C 11	30.9	90.3	-3.2		
FIRST CLOSED-IN					
C 1	0.0	90.3			
2	3.0	512.9	422.6	2.8	1.050
3	6.0	574.7	484.4	5.0	0.789
4	9.0	627.2	536.9	7.0	0.646
5	12.0	668.9	578.6	8.6	0.554
6	15.0	706.7	616.4	10.1	0.485
7	18.0	737.9	647.6	11.4	0.433
8	21.0	767.4	677.0	12.5	0.393
9	24.0	795.1	704.7	13.5	0.359
10	27.0	819.9	729.6	14.4	0.331
11	30.0	841.6	751.2	15.2	0.308
12	33.0	861.3	771.0	16.0	0.287
13	36.0	880.1	789.8	16.6	0.269
14	39.0	896.7	806.3	17.2	0.254
15	42.0	915.0	824.6	17.8	0.239
D 16	45.6	930.6	840.3	18.4	0.225
SECOND FLOW					
E 1	0.0	77.1			
2	4.0	65.6	-11.5		
3	8.0	67.7	2.1		
4	12.0	69.5	1.8		
5	16.0	70.2	0.6		
6	20.0	72.6	2.4		
7	24.0	72.6	0.0		
8	28.0	72.6	0.0		
9	32.0	72.6	0.0		
10	36.0	72.6	0.0		
11	40.0	72.6	0.0		
12	44.0	71.9	-0.6		
F 13	45.6	70.8	-1.1		

REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$
SECOND CLOSED-IN					
F 1	0.0	70.8			
2	6.0	557.8	487.0	5.6	1.137
3	12.0	703.8	633.0	10.4	0.868
4	18.0	818.0	747.2	14.5	0.721
5	24.0	907.0	836.2	18.3	0.622
6	30.0	984.2	913.4	21.5	0.550
7	36.0	1048.2	977.4	24.5	0.495
8	42.0	1105.0	1034.1	27.1	0.451
9	48.0	1155.9	1085.1	29.5	0.414
10	54.0	1199.5	1128.7	31.7	0.383
11	60.0	1239.9	1169.1	33.6	0.357
12	66.0	1276.7	1205.9	35.4	0.334
13	72.0	1306.5	1235.7	37.1	0.314
14	78.0	1334.7	1263.9	38.6	0.297
15	84.0	1359.1	1288.3	40.0	0.281
G 16	87.9	1371.7	1300.9	40.9	0.272

REMARKS:

TICKET NO: 18409000

CLOCK NO: 8090 HOUR: 12



GAUGE NO: 7502

DEPTH: 5992.0

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	207.1			
2	3.0	112.4	-94.7		
3	6.0	120.3	7.9		
4	9.0	130.5	10.3		
5	12.0	136.0	5.5		
6	15.0	132.3	-3.7		
7	18.0	130.9	-1.4		
8	21.0	128.9	-1.9		
9	24.0	127.2	-1.8		
10	27.0	125.7	-1.4		
C 11	30.9	123.5	-2.3		
FIRST CLOSED-IN					
C 1	0.0	123.5			
2	3.0	552.7	429.3	2.7	1.055
3	6.0	618.3	494.8	5.0	0.789
4	9.0	673.7	550.2	7.0	0.646
5	12.0	713.6	590.1	8.7	0.553
6	15.0	750.0	626.5	10.1	0.486
7	18.0	783.5	660.0	11.4	0.434
8	21.0	814.7	691.3	12.5	0.393
9	24.0	841.7	718.2	13.5	0.360
10	27.0	865.7	742.2	14.4	0.332
11	30.0	888.5	765.0	15.2	0.308
12	33.0	907.7	784.2	16.0	0.287
13	36.0	926.8	803.3	16.6	0.269
14	39.0	941.5	818.0	17.2	0.254
15	42.0	957.7	834.2	17.8	0.240
D 16	45.6	980.4	857.0	18.4	0.225
SECOND FLOW					
E 1	0.0	106.9			
2	4.0	98.2	-8.7		
3	8.0	102.1	3.9		
4	12.0	104.5	2.4		
5	16.0	104.5	0.0		
6	20.0	105.9	1.4		
7	24.0	105.9	0.0		
8	28.0	105.9	0.0		
9	32.0	106.6	0.6		
10	36.0	106.6	0.0		
11	40.0	106.6	0.0		
12	44.0	106.6	0.0		
F 13	45.6	106.9	0.3		

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN					
F 1	0.0	106.9			
2	6.0	607.2	500.3	5.5	1.141
3	12.0	749.0	642.1	10.4	0.866
4	18.0	867.0	760.1	14.6	0.719
5	24.0	955.0	848.1	18.3	0.621
6	30.0	1027.8	920.9	21.5	0.551
7	36.0	1094.1	987.2	24.5	0.495
8	42.0	1149.4	1042.4	27.1	0.451
9	48.0	1197.6	1090.7	29.5	0.414
10	54.0	1240.7	1133.8	31.7	0.383
11	60.0	1280.0	1173.1	33.6	0.357
12	66.0	1314.4	1207.5	35.4	0.334
13	72.0	1343.6	1236.7	37.1	0.314
14	78.0	1371.6	1264.7	38.6	0.297
15	84.0	1397.8	1290.9	40.0	0.281
G 16	87.9	1409.6	1302.7	40.9	0.272

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	5672.0	
50		IMPACT REVERSING SUB.....	6.000	2.500	1.0	5672.0
1		DRILL PIPE.....	4.500	3.826	31.0	
3		DRILL COLLARS.....	6.250	2.250	155.0	
5		CROSSOVER.....	6.000	2.500	1.0	
11		HANDLING SUB & CHOKE ASSEMBLY...	4.500	3.826	5.0	
12		DUAL CIP VALVE.....	5.000	0.870	5.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	5874.0
80		AP RUNNING CASE.....	5.000	3.060	4.0	5876.0
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	5891.0
70		OPEN HOLE PACKER.....	6.750	1.530	6.0	5897.0
20		FLUSH JOINT ANCHOR.....	5.000	2.500	13.0	
5		CROSSOVER.....	6.000	2.500	1.0	
3		DRILL COLLARS.....	6.250	2.250	64.0	
5		CROSSOVER.....	6.000	2.500	1.0	
5		CROSSOVER.....	6.000	2.500	1.0	
20		FLUSH JOINT ANCHOR.....	5.000	2.500	11.0	
83		HT-500 TEMPERATURE CASE.....	5.000		1.0	5991.0
81		BLANKED-OFF RUNNING CASE.....	5.000	2.440	4.0	5992.0
TOTAL DEPTH						5995.0

EQUIPMENT DATA

TEMPERATURE RECORDER CHART



10° each circle

Temperature
Recorder

Temperature
Recorder

Temperature

Temperature

Temperature
Recorder

Temperature
Recorder

Temperature
Recorder