



TICKET NO. 18409100
13-SEP-82
LIBERAL

FORMATION TESTING SERVICE REPORT

MC COY	1	1	4628.1 - 4640.1	ENERGY EXPLORATION AND PRODUCTION INC.
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
LEGAL LOCATION SEC. - TWP. - RNG.	21-26S-32W	FIELD AREA	SOUTH GARDEN CITY	COUNTY
			FINNEY	STATE KANSAS BC-DR

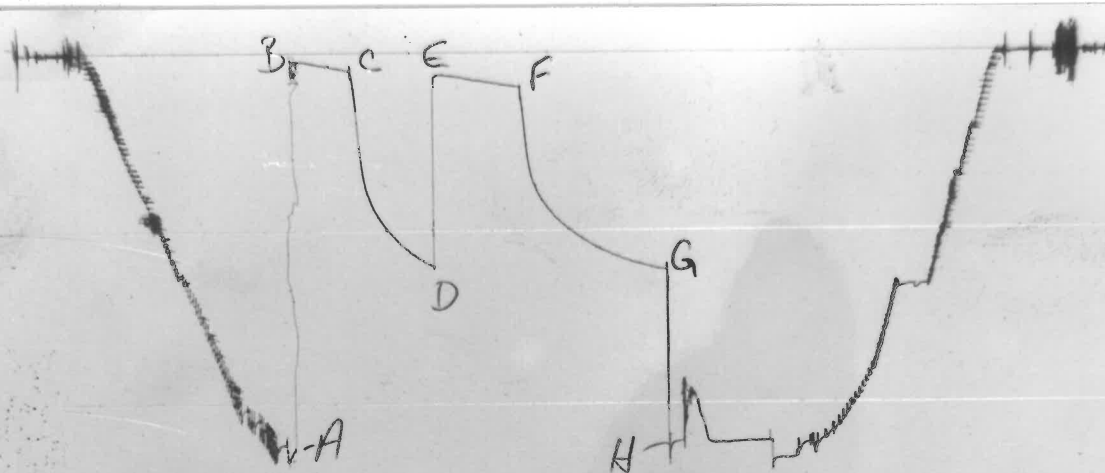
CZC

03 124R 17058

84091

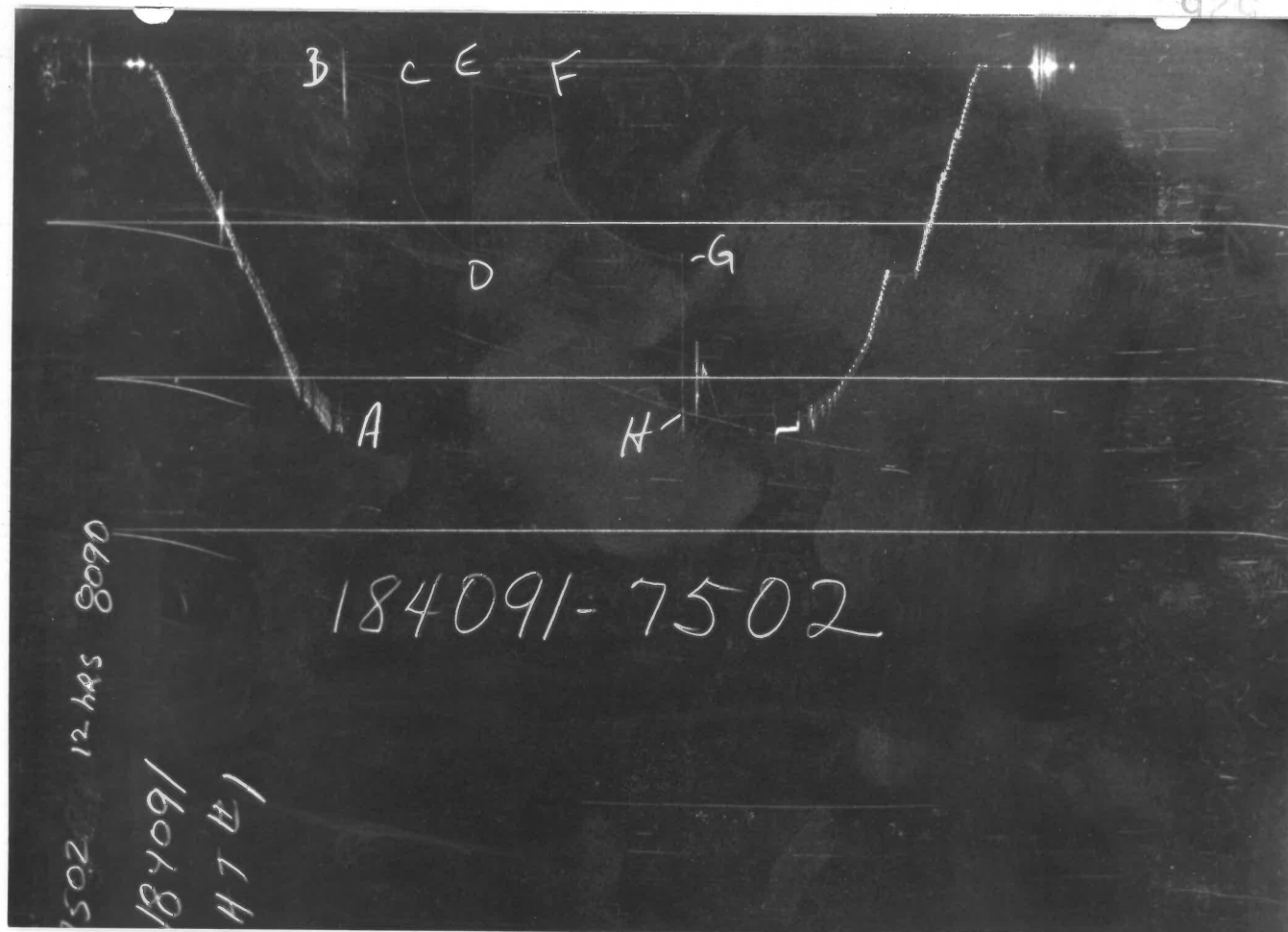
47 #1

184091-7503



GAUGE NO: 7503 DEPTH: 4607.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2234.9			
B	INITIAL FIRST FLOW		40.8			
C	FINAL FIRST FLOW		91.6	33.0	32.0	F
C	INITIAL FIRST CLOSED-IN		91.6			
D	FINAL FIRST CLOSED-IN		1202.9	45.0	44.6	C
E	INITIAL SECOND FLOW		113.7			
F	FINAL SECOND FLOW		185.3	46.0	47.3	F
F	INITIAL SECOND CLOSED-IN		185.3			
G	FINAL SECOND CLOSED-IN		1228.9	79.0	79.1	C
H	FINAL HYDROSTATIC		2225.1			



GAUGE NO: 7502 DEPTH: 4637.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2240.6			
B	INITIAL FIRST FLOW		44.4			
C	FINAL FIRST FLOW		95.7	33.0	32.0	F
C	INITIAL FIRST CLOSED-IN		95.7			
D	FINAL FIRST CLOSED-IN		1217.3	45.0	44.6	C
E	INITIAL SECOND FLOW		108.5			
F	FINAL SECOND FLOW		190.5	46.0	47.3	F
F	INITIAL SECOND CLOSED-IN		190.5			
G	FINAL SECOND CLOSED-IN		1241.4	79.0	79.1	C
H	FINAL HYDROSTATIC		2234.7			

EQUIPMENT & HOLE DATA

FORMATION TESTED: MARMINGTON
NET PAY (ft): 5.0
GROSS TESTED FOOTAGE: 12.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft): _____
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 0
TOTAL DEPTH (ft): 4640.0
PACKER DEPTH(S) (ft): 4622, 4628
FINAL SURFACE CHOKE (in): 0.625
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.40
MUD VISCOSITY (sec): 45
ESTIMATED HOLE TEMP. (°F): _____
ACTUAL HOLE TEMP. (°F): 108 @ 4635.0 ft

TICKET NUMBER: 18409100

DATE: 9-3-82 TEST NO: 1

TYPE DST: OPEN HOLE

HALLIBURTON CAMP:
LIBERAL

TESTER: HASS

WITNESS: RON OSTERBURG

DRILLING CONTRACTOR:
SLAWSON DRILLING #6

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
<u>TOP TOOL</u>	<u>0.120 @ 81°F</u>	<u>37253 ppm</u>
_____	_____ °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): 32.9 @ 60°F
GAS/OIL RATIO (cu.ft. per bbl): _____
GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

2 BARRELS OF OIL, REVERSED OUT TO WATER TRUCK
55' OF HEAVY OIL AND GAS CUT DRILLING MUD
7' OF SLIGHTLY OIL AND GAS CUT SALT WATER

MEASURED FROM
TESTER VALVE

REMARKS:

TYPE & SIZE MEASURING DEVICE: 5/8" CERAMIC CHOKE					TICKET NO: 18409100
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
1315					CALLED OUT
1615					ON LOCATION-RIG WAITING
1625					PICKED UP TOOL
1700					TOOL IN ROTARY
1705					REVERSING SUB IN STRING FIRST
					STAND UP
1854					TOOL ON BOTTOM
1857					OPENED TOOL-BLOW 2" IN BUCKET.
1858					BLOW OFF BOTTOM OF BUCKET
1900					OPENED FLOW LINE TO PIT
1921	.625				GAS TO SURFACE
1922					CLOSED FLOW LINE, SET FIRE POT
1925	.625	3#			OPENED FLOW LINE
1930					CLOSED TOOL
2015	.625	1			OPENED TOOL (WET FLAME)
2020	.625	1.25			
2025	.625	1.25			
2030	.625	75			
2035	.625				
2045	.625	.5			
2050	.625				
2101	.625				CLOSED TOOL
2200					CLOSED FLOW LINE
2215					OPENED FLOW LINE
2220					PULLED OFF BOTTOM
2228					DROPPEO BAR
2229					BAR HIT BOTTOM
2244					OIL TO SURFACE
2310					BROKE OUT HEAD
2315					HOOKEO UP KELLY AND CIRCULATED
2330					BROKE OFF KELLY, STARTED OUT OF
					HOLE.
0115					TOOL IN ROTARY
0235					LOADED TOOL

TICKET NO: 18409100

CLOCK NO: 17058 HOUR: 12



GAUGE NO: 7503

DEPTH: 4607.0

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	40.8			
2	5.0	41.5	0.6		
3	10.0	50.0	8.5		
4	15.0	60.5	10.5		
5	20.0	67.6	7.1		
6	25.0	77.6	10.0		
7	30.0	89.2	11.6		
C 8	32.0	91.6	2.4		
FIRST CLOSED-IN					
C 1	0.0	91.6			
2	4.0	474.2	382.6	3.6	0.954
3	8.0	769.6	678.0	6.4	0.696
4	12.0	876.4	784.8	8.7	0.564
5	16.0	949.0	857.4	10.7	0.477
6	20.0	1004.0	912.4	12.3	0.415
7	24.0	1051.6	960.0	13.7	0.368
8	28.0	1092.2	1000.6	14.9	0.331
9	32.0	1127.8	1036.2	16.0	0.301
10	36.0	1157.2	1065.6	16.9	0.276
11	40.0	1182.7	1091.1	17.8	0.255
D 12	44.6	1202.9	1111.3	18.6	0.235
SECOND FLOW					
E 1	0.0	113.7			
2	8.0	119.8	6.1		
3	16.0	131.0	11.1		
4	24.0	149.0	18.1		
5	32.0	162.1	13.1		
6	40.0	176.9	14.8		
F 7	47.3	185.3	8.4		
SECOND CLOSED-IN					
F 1	0.0	185.3			
2	5.0	667.0	481.7	4.7	1.229
3	10.0	804.8	619.5	8.9	0.952
4	15.0	877.1	691.7	12.6	0.799
5	20.0	939.0	753.7	16.0	0.695
6	25.0	989.3	804.0	19.0	0.620
7	30.0	1028.6	843.3	21.7	0.562
8	35.0	1061.5	876.2	24.3	0.514
9	40.0	1094.4	909.1	26.6	0.474
10	45.0	1121.9	936.6	28.7	0.441
11	50.0	1145.0	959.7	30.7	0.412
12	55.0	1166.3	981.0	32.5	0.388
13	60.0	1184.5	999.2	34.2	0.366

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN - CONTINUED					
14	65.0	1196.6	1011.3	35.7	0.346
15	70.0	1212.3	1027.0	37.2	0.329
16	75.0	1224.4	1039.1	38.5	0.313
G 17	79.1	1228.9	1043.6	39.6	0.301

REMARKS:

TICKET NO: 18409100
CLOCK NO: 8090 HOUR: 12



GAUGE NO: 7502
DEPTH: 4637.0

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	44.4			
2	5.0	45.5	1.1		
3	10.0	53.2	7.7		
4	15.0	63.7	10.5		
5	20.0	73.2	9.5		
6	25.0	83.1	10.0		
7	30.0	93.2	10.1		
C 8	32.0	95.7	2.4		
FIRST CLOSED-IN					
C 1	0.0	95.7			
2	4.0	478.6	383.0	3.6	0.951
3	8.0	783.8	688.2	6.4	0.697
4	12.0	891.2	795.5	8.7	0.563
5	16.0	964.3	868.6	10.7	0.477
6	20.0	1021.9	926.2	12.3	0.415
7	24.0	1067.9	972.2	13.7	0.368
8	28.0	1106.5	1010.9	14.9	0.330
9	32.0	1140.9	1045.2	16.0	0.301
10	36.0	1169.3	1073.7	16.9	0.276
11	40.0	1194.9	1099.2	17.8	0.255
D 12	44.6	1217.3	1121.6	18.6	0.235
SECOND FLOW					
E 1	0.0	108.5			
2	8.0	122.5	14.0		
3	16.0	136.8	14.3		
4	24.0	152.7	15.9		
5	32.0	165.8	13.0		
6	40.0	180.5	14.8		
F 7	47.3	190.5	10.0		
SECOND CLOSED-IN					
F 1	0.0	190.5			
2	5.0	664.1	473.6	4.7	1.226
3	10.0	811.7	621.2	8.9	0.951
4	15.0	891.0	700.5	12.6	0.798
5	20.0	949.8	759.3	15.9	0.696
6	25.0	999.5	809.0	19.0	0.621
7	30.0	1039.1	848.6	21.7	0.562
8	35.0	1072.8	882.3	24.3	0.514
9	40.0	1103.7	913.2	26.6	0.474
10	45.0	1130.4	939.8	28.7	0.441
11	50.0	1153.7	963.2	30.6	0.413
12	55.0	1175.2	984.7	32.5	0.388
13	60.0	1193.1	1002.6	34.2	0.366

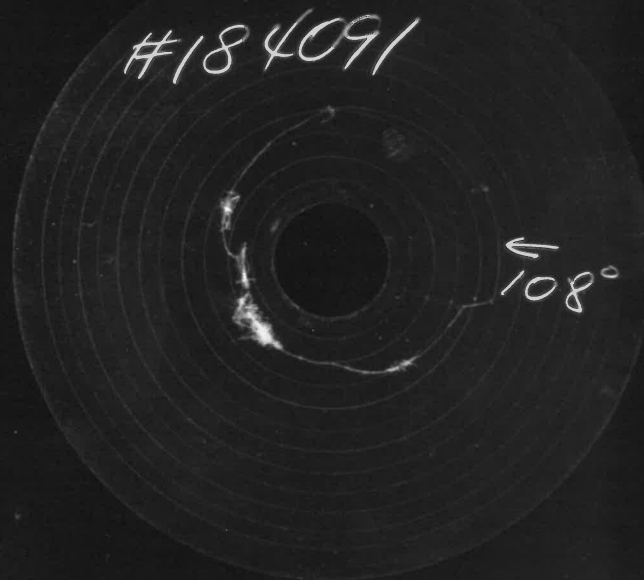
REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN - CONTINUED					
14	65.0	1208.5	1018.0	35.7	0.346
15	70.0	1221.6	1031.1	37.2	0.329
16	75.0	1232.7	1042.2	38.5	0.313
G 17	79.1	1241.4	1050.9	39.6	0.301

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH
1					
	DRILL PIPE.....	4.500	3.826	4495.0	
4					
	FLEX WEIGHT.....	4.500	2.764	31.0	
50					
	IMPACT REVERSING SUB.....	6.000	2.500	1.0	4527.0
4					
	FLEX WEIGHT.....	4.500	2.764	62.0	
11					
	HANDLING SUB & CHDKE ASSEMBLY...	4.500	3.826	5.0	
13					
	DUAL CIP SAMPLER.....	5.000	0.780	7.0	
60					
	HYDROSPRING TESTER.....	5.000	0.750	5.0	4605.0
80					
	AP RUNNING CASE.....	5.000	3.060	4.0	4607.0
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	4622.0
70					
	OPEN HOLE PACKER.....	6.750	1.530	6.0	4628.0
20					
	FLUSH JOINT ANCHOR.....	5.000	2.360	5.0	
83					
	HT-500 TEMPERATURE CASE.....	5.000		1.0	4635.0
81					
	BLANKED-OFF RUNNING CASE.....	5.000	2.440	4.0	4637.0
TOTAL DEPTH					4640.0

EQUIPMENT DATA

TEMPERATURE RECORDER CHART



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)

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

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