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15-093-21250 9-23s-37w

AMOCO PRODUCTION COMPANY

LEASE : SHANKLE

WELL NO.: 2-9

TEST NO.: 1

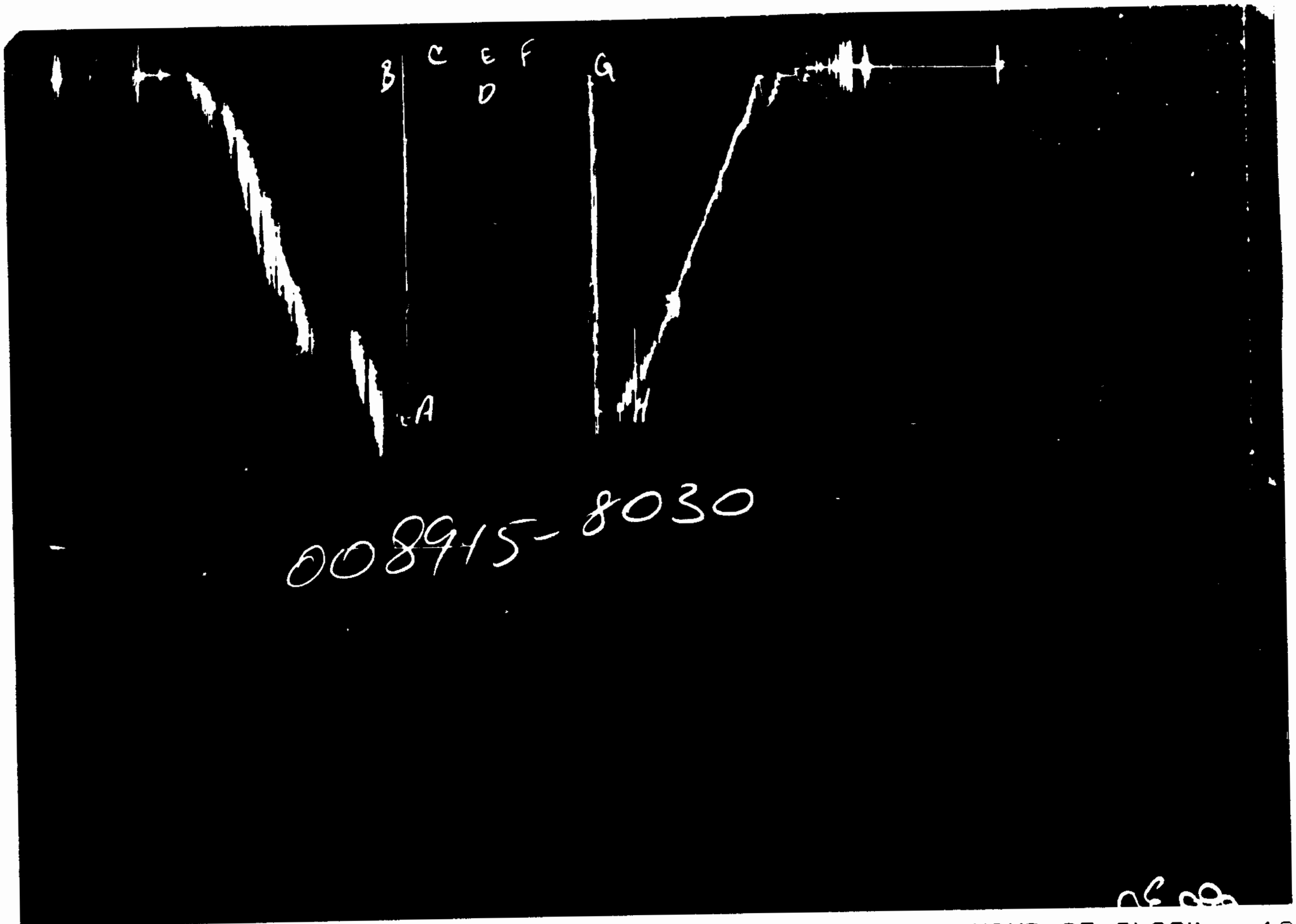
TICKET NO. 00891500
24-FEB-93
LIBERAL

RECEIVED

JUN 1 1993

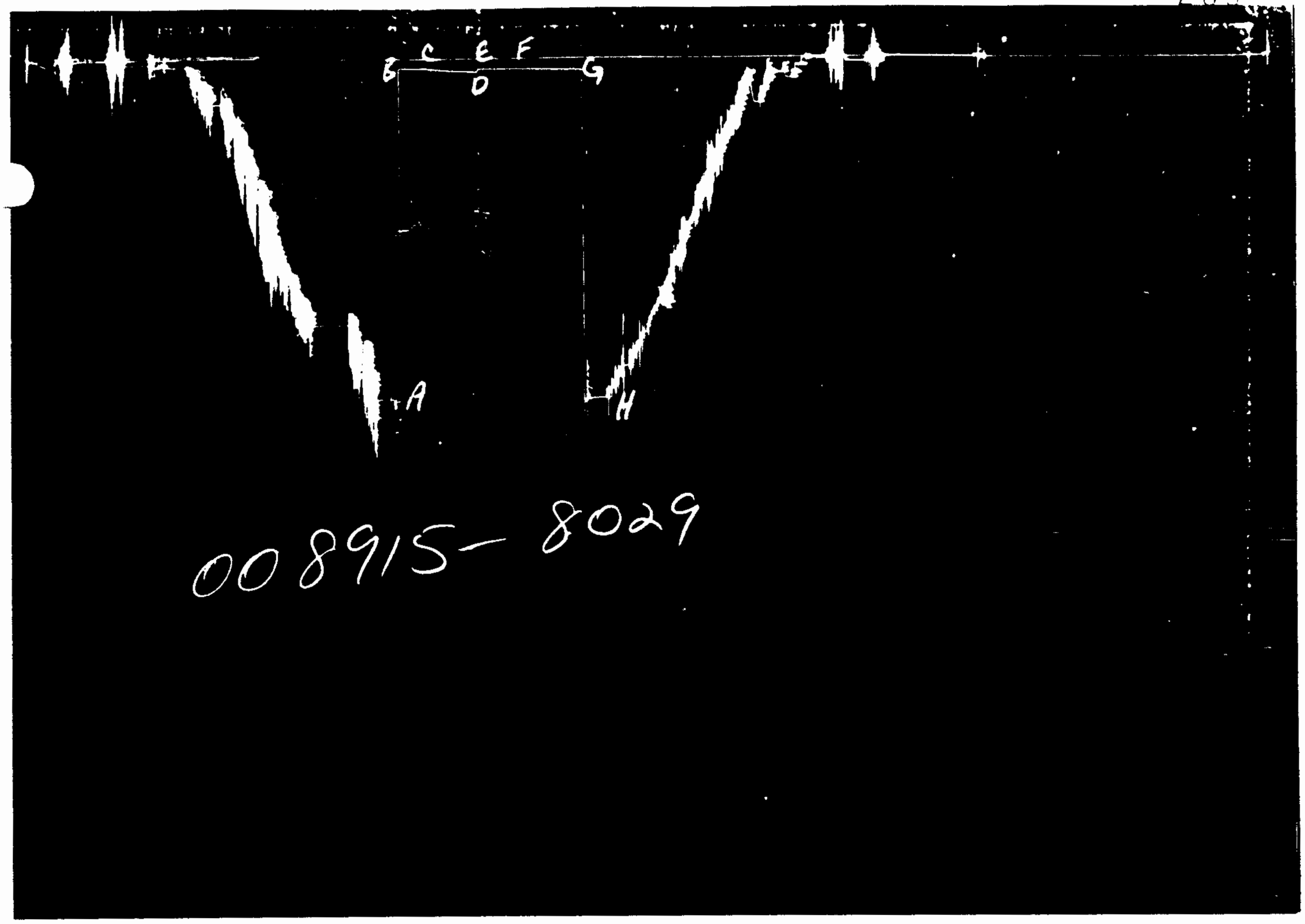
DST REPORT PRODUCED BY HRS
A DIVISION OF HALLIBURTON COMPANY

LEASE NAME	SHANKLE
WELL NO.	2-9
TEST NO.	1
TESTED INTERVAL	4704.2 - 4782.0
LEASE OWNER/COMPANY NAME	AMOCO PRODUCTION COMPANY
LEGAL LOCATION SEC. - TWP. - RNG.	9 - 23 S - 37 W
FIELD AREA	HEINITZ
COUNTY	KEARNY
STATE	KANSAS



GAUGE NO: 8030 DEPTH: 4683.6 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2193	2198.6			
B	INITIAL FIRST FLOW	16	25.0	16.0	16.0	F
C	FINAL FIRST FLOW	16	22.4			
C	INITIAL FIRST CLOSED-IN	16	22.4	30.0	30.0	C
D	FINAL FIRST CLOSED-IN	46	42.1			
E	INITIAL SECOND FLOW	26	35.7	20.0	20.0	F
F	FINAL SECOND FLOW	26	26.8			
F	INITIAL SECOND CLOSED-IN	26	26.8	40.0	40.0	C
G	FINAL SECOND CLOSED-IN	29	32.4			
H	FINAL HYDROSTATIC	2193	2193.1			



GAUGE NO: 8029 DEPTH: 4779.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	2223	2244.3			
B	INITIAL FIRST FLOW	67	68.8	16.0	16.0	F
C	FINAL FIRST FLOW	74	66.1			
C	INITIAL FIRST CLOSED-IN	74	66.1	30.0	30.0	C
D	FINAL FIRST CLOSED-IN	100	88.7			
E	INITIAL SECOND FLOW	67	79.9	20.0	20.0	F
F	FINAL SECOND FLOW	70	69.9			
F	INITIAL SECOND CLOSED-IN	70	69.9	40.0	40.0	C
G	FINAL SECOND CLOSED-IN	70	78.6			
H	FINAL HYDROSTATIC	2223	2233.2			

EQUIPMENT & HOLE DATA

FORMATION TESTED: MORROW SAND
NET PAY (ft): 20.0
GROSS TESTED FOOTAGE: 77.8
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 3307.0 AT KELLY BUSHING
TOTAL DEPTH (ft): 4782.0
PACKER DEPTH(S) (ft): 4698, 4704
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 8.90
MUD VISCOSITY (sec): 45
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 114 @ 4777.0 ft

TICKET NUMBER: 00891500

DATE: 02-19-93 TEST NO: 1

TYPE DST: OPEN HOLE

FIELD CAMP: LIBERAL

TESTER: L D GRANT

WITNESS: SAM CARMACK

DRILLING CONTRACTOR: CHEYENNE DRILLING COPANY #2

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	2.400 @ 72 °F	1270 ppm
TOP	2.400 @ 72 °F	970 ppm
SAMPLER	2.420 @ 72 °F	1368 ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE: 20.0
cu.ft. OF GAS:
cc OF OIL:
cc OF WATER:
cc OF MUD: 2240.0
TOTAL LIQUID cc: 2240.0

HYDROCARBON PROPERTIES

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

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

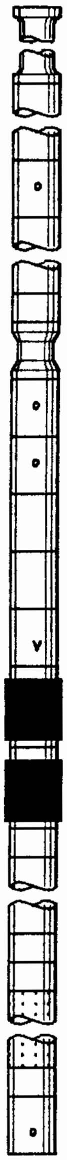
10 FEET OF DRILLING MUD

MEASURED FROM TESTER VALVE

REMARKS:

TYPE & SIZE MEASURING DEVICE:					TICKET NO: 00891500
TI	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
02-18-93					
2400					CALLED OUT; REQUESTED TO BE ON
					LOCATION AT 0330
02-19-93					
0330					ON LOCATION, RIG TRIPPING OUT
					OF HOLE WITH DRILL PIPE
0645					OUT OF HOLE, WORKED ON RIG
					DRAW WORKS, STOOD BY
1120					STARTED HT-500 TEMPERATURE GAUGE
1125					STARTED BT RECORDER # 8029
1127					STARTED BT RECORDER # 8030
1145					RIG REPAIRED
1150					STARTED PICKING UP AND MAKING
					UP TOOLS
1235					TOOL MADE UP IN TABLE, RIG
					TRIPPING IN HOLE
1445					TOOL ON BOTTOM, STRING WEIGHT =
					94,000#
1448	BH				TOOL OPENED, STRING WEIGHT
					64,000#, BLOW VERY SLIGHT
					ACROSS TOP OF BUCKET OF WATER
1504	BH				CLOSED TOOL - WELL DEAD
1534	BH				OPENED TOOL - NO BLOW
1554	BH				CLOSED TOOL - NO BLOW
1634					OPENED BYPASS, PULLED OFF
					BOTTOM, 94,000# - 100,000#
1637					TRIPPED OUT OF HOLE WITH TOOL
					STRING WEIGHT 94,000#
1845					TOOL IN TABLE, BROKE OUT
1930					OUT OF HOLE - TOOL ON RIG
					FLOOW, LOADED OUT
2010					LOADED OUT - READ CHARTS
2100					RELEASED - JOB COMPLETED

TICKET NO. 00891500



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	4.500	3.826	4141.2	
3	DRILL COLLARS	6.000	2.250	463.2	
50	IMPACT REVERSING SUB	6.000	2.170	1.0	4605.0
3	DRILL COLLARS	6.000	2.250	59.7	
5	CROSSOVER	6.000	2.370	1.0	
11	HANDLING SUB & CHOKE ASSEMBLY	4.500	2.430	4.7	
13	DUAL CIP SAMPLER	5.000	0.750	6.6	
60	HYDROSPRING TESTER	5.000	0.750	5.0	4681.5
80	AP RUNNING CASE	5.000	2.250	4.1	4683.6
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
70	OPEN HOLE PACKER	6.750	1.530	5.8	4698.4
70	OPEN HOLE PACKER	6.750	1.530	5.8	4704.2
5	CROSSOVER	6.000	2.370	1.0	
3	DRILL COLLARS	6.000	2.250	60.4	
5	CROSSOVER	6.000	2.370	1.0	
5	CROSSOVER	6.000	2.370	1.0	
20	FLUSH JOINT ANCHOR	5.000	2.370	7.0	
83	HT-500 TEMPERATURE CASE	5.000		1.5	4777.0
81	BLANKED-OFF RUNNING CASE	5.000		4.1	4779.0
	TOTAL DEPTH				4782.0

EQUIPMENT DATA

TEMPERATURE RECORDER CHART

10° each circle

Indicated Flow Capacity	$kh = \frac{.001637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[\frac{m(P^*)-m(P_f)}{m} - LOG\left(\frac{k\ (t/60)}{\phi\ \mu\ c_t r_w^2}\right) + 3.23 \right]$	
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

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