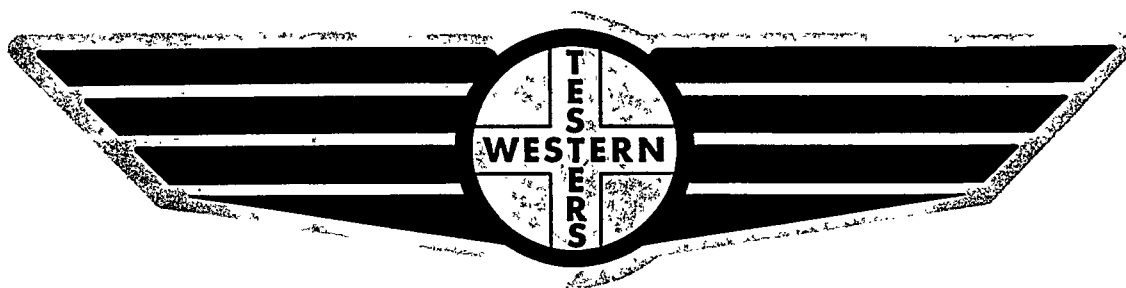


FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY HESS OIL COMPANY

LEASE & WELL NO.

#2 KELLER

SEC 7

TWP 12S

RGE. 21W

TEST NO. 1

DATE 8-16-86

WESTERN TESTERS INC.
SUBSURFACE PRESSURE SURVEY.

DATE : 8-16-86
CUSTOMER : HESS OIL COMPANY
WELL : #2 TEST: 1
ELEVATION : 2335
SECTION : 7
RANGE : 21W COUNTY : TREGO
GAUGE SN# : 1566 RANGE : 4300
TICKET : 10611
LEASE : KELLER
GEOLOGIST : J. HESS
FORMATION : LANSING A
TOWNSHIP : 12S
STATE : KANSAS
CLOCK : 12

INTERVAL FROM : 3600 TO : 3676 TOTAL DEPTH : 3676
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 3595 SIZE : 6.75
PACKER DEPTH : 3600 SIZE : 6.75
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : MALLARD DRILLING
MUD TYPE : CHEMICAL VISCOSITY : 39
WEIGHT : 9.3 WATER LOSS (CC) : 26.8
CHLORIDES (PPM) : 13000
JARS-MAKE : -- SERIAL NUMBER :
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 300 FT I.D. inch : 2.20
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00
DRILL PIPE LENGTH : 3280 FT I.D. inch : 3.80
TEST TOOL LENGTH : 20 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 76 FT ANCHOR SIZE : 5.50
SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75
MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5 XH

BLOW COMMENT #1 : INITIAL FLOW; WEAK BLOW DEAD IN 12 MINUTES.
BLOW COMMENT #2 : FINAL FLOW; NO BLOW.
BLOW COMMENT #3 :
BLOW COMMENT #4 :

RECOVERED : 10 FT OF: DRILLING MUD

Total Barrels Fluid = 0.05
Total Fluid Prod Rate = 1.93 BFPD
Indicated Wtr Rate = 1.74 BWPD

REMARK 1 : FLUSHED TOOL FINAL FLOW.
REMARK 2 :
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 8:50 PM TIME STARTED OFF BOTTOM : 9:50 PM
WELL TEMPERATURE : 112
INITIAL HYDROSTATIC PRESSURE (A) 1850
INITIAL FLOW PERIOD MIN: 20 (B) 51 PSI TO (C) : 51
INITIAL CLOSED IN PERIOD MIN: 30 (D) 1032
FINAL FLOW PERIOD MIN: 15 (E) 82 PSI TO (F) : 70
FINAL CLOSED IN PERIOD MIN: 0 (G) 0
FINAL HYDROSTATIC PRESSURE (H) 1824

WESTERN TESTERS INC.
WICHITA - KANSAS

Pressure Transient Report

COMPANY : HESS OIL COMPANY
RIG : TREGO-KANSAS
FIELD : KELLER
WELL : #2
DATE : 8-16-86
GAUGE NO : 1566

OPERATIONAL COMMENTS

FLUSHED TOOL FINAL FLOW.

COMPANY : HESS OIL COMPANY
WELL : #2
GAUGE # : 1566
DATE : 16/ 8/86

FIELD : KELLER
JOB # : 10611
DEPTH : 3676
EVENT : FLUSHED TOOL FINAL FLOW.

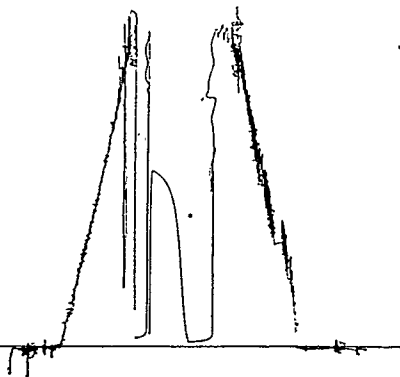
DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
1	8:54:60	0.083	51.000	112.00	0.000
2	9: 0: 1	0.167	51.000	112.00	0.000
3	9: 5: 0	0.250	51.000	112.00	0.000
4	9: 9:60	0.333	51.000	112.00	0.000
5	9:12:60	0.383	220.000	112.00	169.000
6	9:15:60	0.433	566.000	112.00	346.000
7	9:18:60	0.483	739.000	112.00	173.000
8	9:21:60	0.533	845.000	112.00	106.000
9	9:24:60	0.583	911.000	112.00	66.000
10	9:27:60	0.633	950.000	112.00	39.000
11	9:30:60	0.683	980.000	112.00	30.000
12	9:33:60	0.733	1003.000	112.00	23.000
13	9:36:60	0.783	1023.000	112.00	20.000
14	9:39:60	0.833	1032.000	112.00	9.000
15	9:45: 1	0.917	82.000	112.00	-950.000
16	9:50: 0	1.000	71.000	112.00	-11.000
17	9:54:60	1.083	70.000	112.00	-1.000

WESTERN TESTERS INC.

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Hess oil
DST 1

Nit # 10611
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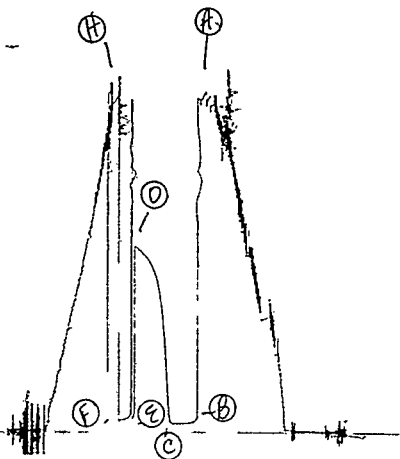


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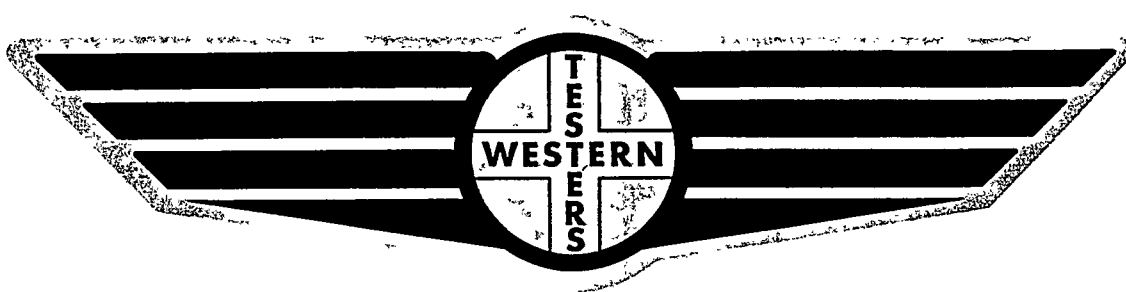
Hess oil
DST 1

K#10611

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FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY HESS OIL COMPANY LEASE & WELL NO. #2 KELLER SEC. 7 TWP. 12S RGE. 21W TEST NO. 2 DATE 8-17-86

WESTERN TESTERS INC.
SUBSURFACE PRESSURE SURVEY

DATE : 8-17-86 TICKET : 10612
CUSTOMER : HESS OIL COMPANY LEASE : KELLER
WELL : #2 TEST: 2 GEOLOGIST : J. HESS
ELEVATION : 2335 FORMATION : LANSING
SECTION : 7 TOWNSHIP : 12S
RANGE : 21W COUNTY : TREGO STATE : KANSAS
GAUGE SN# : 1566 RANGE : 4300 CLOCK : 12

INTERVAL FROM : 3790 TO : 3880 TOTAL DEPTH : 3880
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 3785 SIZE : 6.75
PACKER DEPTH : 3790 SIZE : 6.75
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : MALLARD DRILLING
MUD TYPE : CHEMICAL VISCOSITY : 43
WEIGHT : 9.6 WATER LOSS (CC) : 26.8
CHLORIDES (PPM) : 12000
JARS-MAKE : -- SERIAL NUMBER :
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 240 FT I.D. inch : 2.20
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00
DRILL PIPE LENGTH : 3530 FT I.D. inch : 3.80
TEST TOOL LENGTH : 20 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 90 FT ANCHOR SIZE : 5.50
SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75
MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5 XH

BLOW COMMENT #1 : WEAK BLOW DEAD IN 6 MINUTES ON THE INITIAL FLOW.
BLOW COMMENT #2 : NO BLOW ON THE FINAL FLOW.
BLOW COMMENT #3 :
BLOW COMMENT #4 :

RECOVERED : 10 FT OF: DRILLING MUD

Total Barrels Fluid = 0.05
Total Fluid Prod Rate = 1.93 BFPD
Indicated Wtr Rate = 1.74 BWPD

REMARK 1 : FLUSHED TOOL FINAL FLOW.
REMARK 2 :
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 6:20 PM TIME STARTED OFF BOTTOM : 7:25 PM
WELL TEMPERATURE : 114
INITIAL HYDROSTATIC PRESSURE (A) 2000
INITIAL FLOW PERIOD MIN: 15 (B) 54 PSI TO (C) : 54
INITIAL CLOSED IN PERIOD MIN: 30 (D) 68
FINAL FLOW PERIOD MIN: 20 (E) 58 PSI TO (F) : 61
FINAL CLOSED IN PERIOD MIN: 0 (G) 0
FINAL HYDROSTATIC PRESSURE (H) 1967

WESTERN TESTERS INC.
WICHITA - KANSAS

Pressure Transient Report

COMPANY : HESS OIL COMPANY
RIG : TREGO-KANSAS
FIELD : KELLER
WELL : #2
DATE : 8-17-86
GAUGE NO : 1566

OPERATIONAL COMMENTS

FLUSHED TOOL FINAL FLOW.

COMPANY : HESS OIL COMPANY
WELL : #2
GAUGE # : 1566
DATE : 17/ 8/86

FIELD : KELLER
JOB # : 10612
DEPTH : 3880
EVENT : FLUSHED TOOL FINAL FLOW.

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P $P_i - P(i-1)$
1	6:20: 0	0.000	54.000	114.00	0.000
2	6:24:60	0.083	54.000	114.00	0.000
3	6:30: 1	0.167	54.000	114.00	0.000
4	6:35: 0	0.250	54.000	114.00	0.000
5	6:38: 0	0.300	54.000	114.00	0.000
6	6:41: 0	0.350	54.000	114.00	0.000
7	6:44: 0	0.400	54.000	114.00	0.000
8	6:47: 0	0.450	55.000	114.00	1.000
9	6:50: 0	0.500	56.000	114.00	1.000
10	6:53: 0	0.550	58.000	114.00	2.000
11	6:56: 0	0.600	60.000	114.00	2.000
12	6:59: 0	0.650	62.000	114.00	2.000
13	7: 2: 0	0.700	65.000	114.00	3.000
14	7: 5: 0	0.750	68.000	114.00	3.000
15	7: 9:60	0.833	58.000	114.00	-10.000
16	7:15: 1	0.917	75.000	114.00	17.000
17	7:20: 0	1.000	64.000	114.00	-11.000
18	7:24:60	1.083	61.000	114.00	-3.000

WESTERN TESTERS INC.

1566

Hess oil
DST 2

SP# 10612

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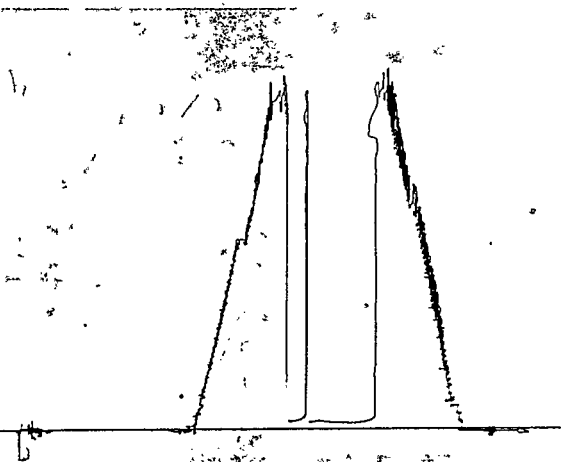
13629

Huss oil

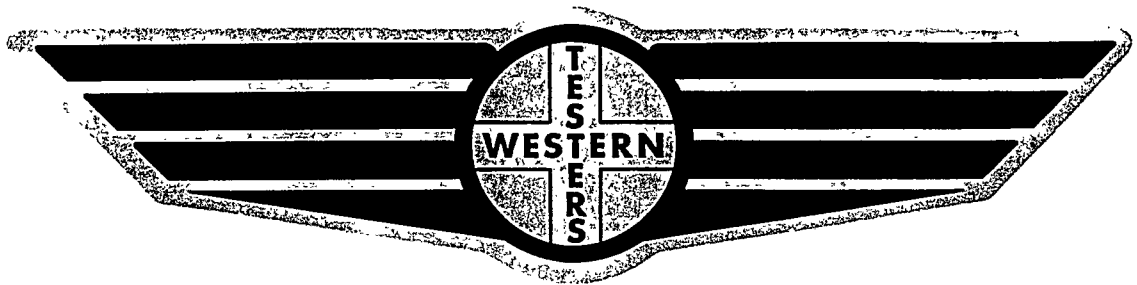
DST 2

JK #10612

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FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY HESS OIL COMPANY

LEASE & WELL NO. #2 KELLER

SEC. 7 TWP. 12S RGE. 21W

TEST NO. 3

DATE 8/18/86

WESTERN TESTERS INC.
SUBSURFACE PRESSURE SURVEY

DATE : 8-18-86 TICKET : 10613
CUSTOMER : HESS OIL CO LEASE : KELLER
WELL : #2 TEST: 3 GEOLOGIST : J. HESS
ELEVATION : 2335 FORMATION : MARMATON
SECTION : 7 TOWNSHIP : 12S
RANGE : 21W COUNTY : TREGO STATE : KS
GAUGE SN# : 1566 RANGE : 4300 CLOCK : 12

INTERVAL FROM : 3960 TO : 3990 TOTAL DEPTH : 3990
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 3955 SIZE : 6.75
PACKER DEPTH : 3960 SIZE : 6.75
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : MALLARD
MUD TYPE : CHEMICAL VISCOSITY : 50
WEIGHT : 9.5 WATER LOSS (CC) : 23.2
CHLORIDES (PPM) : 10000
JARS-MAKE : - SERIAL NUMBER : -
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 300 FT I.D. inch : 2.20
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00
DRILL PIPE LENGTH : 3640 FT I.D. inch : 3.80
TEST TOOL LENGTH : 20 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 30 FT ANCHOR SIZE : 5.50
SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75
MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5XH

BLOW COMMENT #1 : WEAK BLOW DIED IN 10 MIN.
BLOW COMMENT #2 : ON INITIAL FLOW PERIOD.
BLOW COMMENT #3 : NO BLOW ON FINAL FLOW PERIOD.
BLOW COMMENT #4 :

RECOVERED : 5 FT OF: DRLG MUD W/FEW OIL SPOTS

Total Barrels Fluid = 0.02
Total Fluid Prod Rate = 0.85 BFPD
Indicated Oil Rate = 0.03 BOPD Indicated Wtr Rate = 0.68
BHPD
Corrected Oil Rate = 9.81 BOPD Corrected Wtr Rate = 196.29
BHPD

REMARK 1 : FLUSHED TOOL 5 MIN. ON FINAL FLOW PERIOD.
REMARK 2 :
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 2:35PM TIME STARTED OFF BOTTOM : 3:45PM
WELL TEMPERATURE : 115
INITIAL HYDROSTATIC PRESSURE (A) 2099
INITIAL FLOW PERIOD MIN: 30 (B) 50 PSI TO (C) : 50
INITIAL CLOSED IN PERIOD MIN: 33 (D) 594
FINAL FLOW PERIOD MIN: 10 (E) 75 PSI TO (F) : 72
FINAL CLOSED IN PERIOD MIN: 0 (G) 0
FINAL HYDROSTATIC PRESSURE (H) 2075

WESTERN TESTERS INC.
WICHITA - KANSAS

Pressure Transient Report

COMPANY : HESS OIL CO
RIG : TREGO-KS
FIELD : KELLER
WELL : #2
DATE : 8-18-86
GAUGE NO : 1566

OPERATIONAL COMMENTS

FLUSHED TOOL 5 MIN. ON FINAL FLOW PERIOD.

COMPANY : HESS OIL CO
WELL : #2
GAUGE # : 1566
DATE : 18/ 8/86

FIELD : KELLER
JOB # : 10613
DEPTH : 3990
EVENT : FLUSHED TOOL 5 MIN. ON FINAL
FLOW PERIOD.

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
1	2:35: 0	0.000	50.000	115.00	0.000
2	2:39:60	0.083	50.000	115.00	0.000
3	2:45: 1	0.167	50.000	115.00	0.000
4	2:50: 0	0.250	50.000	115.00	0.000
5	2:54:60	0.333	50.000	115.00	0.000
6	3: 0: 1	0.417	50.000	115.00	0.000
7	3: 5: 0	0.500	50.000	115.00	0.000
8	3: 8: 0	0.550	50.000	115.00	0.000
9	3:11: 0	0.600	50.000	115.00	0.000
10	3:14: 0	0.650	55.000	115.00	5.000
11	3:17: 0	0.700	65.000	115.00	10.000
12	3:20: 0	0.750	99.000	115.00	34.000
13	3:23: 0	0.800	190.000	115.00	91.000
14	3:26: 0	0.850	293.000	115.00	103.000
15	3:29: 0	0.900	395.000	115.00	102.000
16	3:32: 0	0.950	484.000	115.00	89.000
17	3:35: 0	1.000	565.000	115.00	81.000
18	3:38: 0	1.050	594.000	115.00	29.000
19	3:42:60	1.133	75.000	115.00	-519.000
20	3:48: 1	1.217	72.000	115.00	-3.000

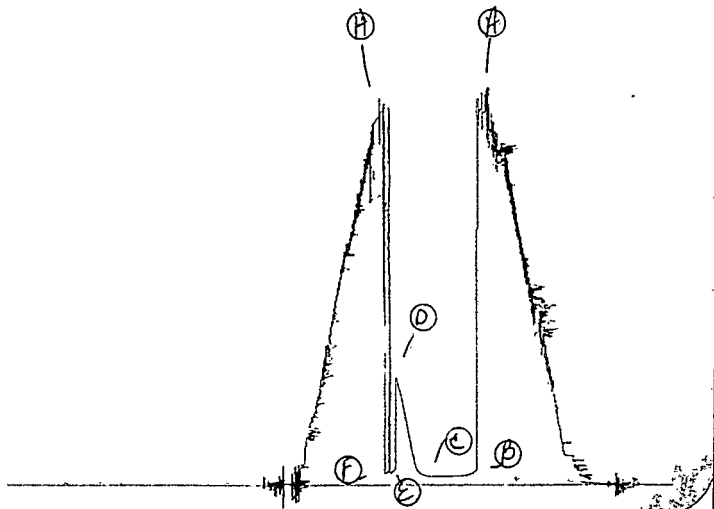
WESTERN TESTERS INC.

1566

Hess oil
DST 3

Wt # 10613

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13629

Hess oil
DST 3

24 # 10613
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