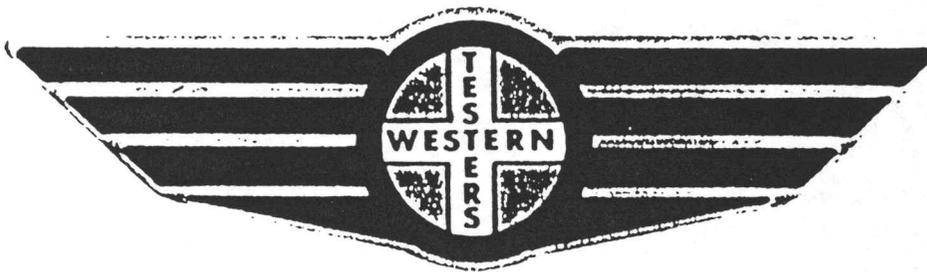


FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY GRAHAM-MICHAELIS CORPORATION LEASE & WELL. NO. LOCKE BROS. # 5-19 SEC. 19 TWP. 10S RGE. 15W TEST NO. 1 DATE 9/15/88

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 9-15-88 TICKET : 14545
CUSTOMER : GRAHAM-MICHAELIS CORPORATION LEASE : LOCKE BROS.
WELL : #5-19 TEST: 1 GEOLOGIST : J ALBERTS
ELEVATION : 1930 GL FORMATION : LANSING
SECTION : 19 TOWNSHIP : 10S
RANGE : 15W COUNTY : OSBORNE STATE : KANSAS
GAUGE SN# : 1566 RANGE : 4300 CLOCK : 12

INTERVAL FROM : 3178 TO : 3222 TOTAL DEPTH : 3222
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 3173 SIZE : 6.75
PACKER DEPTH : 3178 SIZE : 6.75
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : RED TIGER RIG 2
MUD TYPE : STARCH VISCOSITY : 40
WEIGHT : 9.8 WATER LOSS (CC) : 9.4
CHLORIDES (PPM) : 62000
JARS-MAKE : - SERIAL NUMBER :
DID WELL FLOW ? : NO REVERSED OUT ? :

DRILL COLLAR LENGTH : 0 FT I.D. inch : 0.00
WEIGHT PIPE LENGTH : 560 FT I.D. inch : 2.70
DRILL PIPE LENGTH : 2598 FT I.D. inch : 3.80
TEST TOOL LENGTH : 20 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 44 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-STRONG BLOW -12" IN BUCKET.
BLOW COMMENT #2 : FINAL FLOW-FAIR BLOW-6" IN BUCKET.
BLOW COMMENT #3 :
BLOW COMMENT #4 :

RECOVERED : 350 FT OF: WATERY MUD

CHLORIDES: 68000 PPM

Total Barrels Fluid = 2.48
Total Fluid Prod Rate = 26.44 BFPD
Indicated Wtr Rate = 12.09 BWPD

REMARK 1 : NO FINAL SHUT-IN
REMARK 2 : SLID 5' TO BOTTOM AFTER TOOL OPENED.
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 2:00 AM

TIME STARTED OFF BOTTOM : 5:00 AM

WELL TEMPERATURE : 110

INITIAL HYDROSTATIC PRESSURE

(A) 1694

INITIAL FLOW PERIOD MIN: 30

(B) 129 PSI TO (C) : 138

INITIAL CLOSED IN PERIOD MIN: 45

(D) 586

FINAL FLOW PERIOD MIN: 105

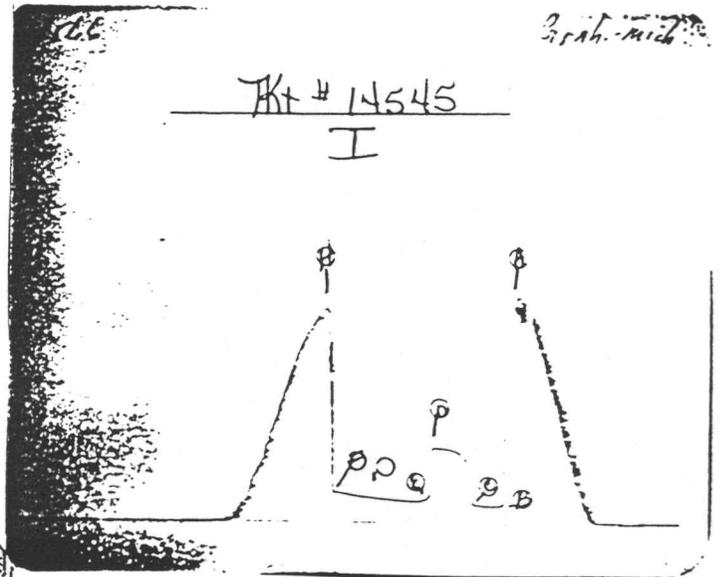
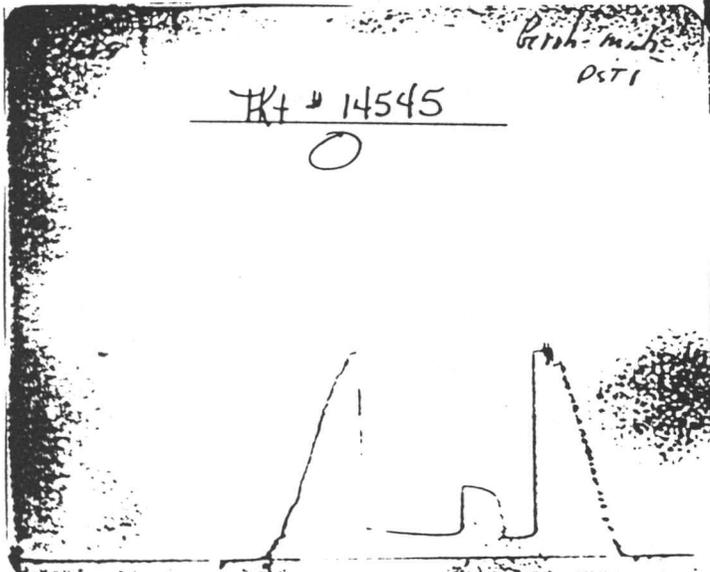
(E) 168 PSI TO (F) : 234

FINAL CLOSED IN PERIOD MIN: 0

(G) 0

FINAL HYDROSTATIC PRESSURE

(H) 1681



WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : GRAHAM-MICHAELIS CORPORATION
RIG : OSBORNE-KANSAS
FIELD : LOCKE BROS.
WELL : #5-19
DATE : 9-15-88
GAUGE NO : 1566

OPERATIONAL COMMENTS

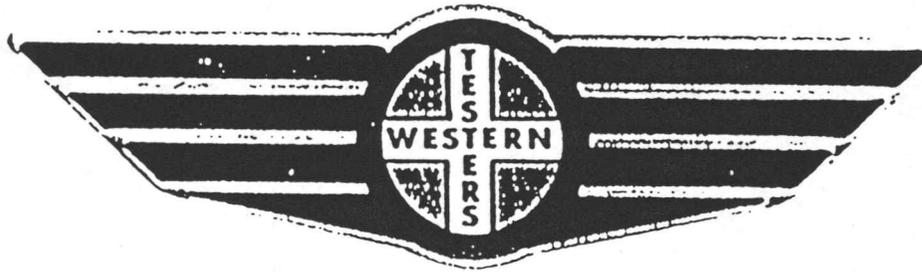
NO FINAL SHUT-IN
SLID 5' TO BOTTOM AFTER TOOL OPENED.

COMPANY : GRAHAM-MICHAELIS CORPORATION
 WELL : #5-19
 GAUGE # : 1566
 DATE : 15/ 9/88

FIELD : LOCKE BROS.
 JOB # : 14545
 DEPTH : 3222
 TEST : NO FINAL SHUT-IN

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
INITIAL FLOW					
2	2: 0: 0	0.000	129.000	110.00	0.000
3	2: 4: 59	0.083	129.000	110.00	0.000
4	2: 10: 0	0.167	129.000	110.00	0.000
5	2: 15: 0	0.250	129.000	110.00	0.000
6	2: 19: 59	0.333	131.000	110.00	2.000
7	2: 25: 0	0.417	134.000	110.00	3.000
8	2: 30: 0	0.500	138.000	110.00	4.000
INITIAL SHUT-IN					
9	2: 33: 0	0.550	291.000	110.00	153.000
10	2: 36: 0	0.600	432.000	110.00	141.000
11	2: 39: 0	0.650	484.000	110.00	52.000
12	2: 42: 0	0.700	514.000	110.00	30.000
13	2: 45: 0	0.750	538.000	110.00	24.000
14	2: 48: 0	0.800	550.000	110.00	12.000
15	2: 51: 0	0.850	561.000	110.00	11.000
16	2: 54: 0	0.900	568.000	110.00	7.000
17	2: 57: 0	0.950	574.000	110.00	6.000
18	3: 0: 0	1.000	578.000	110.00	4.000
19	3: 2: 59	1.050	581.000	110.00	3.000
20	3: 6: 0	1.100	583.000	110.00	2.000
21	3: 9: 0	1.150	584.000	110.00	1.000
22	3: 12: 0	1.200	585.000	110.00	1.000
23	3: 15: 0	1.250	586.000	110.00	1.000
FINAL FLOW					
24	3: 16: 0	1.267	168.000	110.00	-418.000
25	3: 19: 59	1.333	168.000	110.00	0.000
26	3: 25: 0	1.417	168.000	110.00	0.000
27	3: 30: 0	1.500	168.000	110.00	0.000
28	3: 34: 59	1.583	168.000	110.00	0.000
29	3: 40: 0	1.667	170.000	110.00	2.000
30	3: 45: 0	1.750	172.000	110.00	2.000
31	3: 49: 59	1.833	175.000	110.00	3.000
32	3: 55: 0	1.917	178.000	110.00	3.000
33	4: 0: 0	2.000	181.000	110.00	3.000
34	4: 4: 59	2.083	184.000	110.00	3.000
35	4: 10: 0	2.167	188.000	110.00	4.000
36	4: 15: 0	2.250	192.000	110.00	4.000
37	4: 19: 59	2.333	196.000	110.00	4.000
38	4: 25: 0	2.417	200.000	110.00	4.000
39	4: 30: 0	2.500	204.000	110.00	4.000
40	4: 34: 59	2.583	210.000	110.00	6.000
41	4: 40: 0	2.667	216.000	110.00	6.000
42	4: 45: 0	2.750	222.000	110.00	6.000
43	4: 49: 59	2.833	226.000	110.00	4.000
44	4: 55: 0	2.917	230.000	110.00	4.000
45	5: 0: 0	3.000	234.000	110.00	4.000

FORMATION TEST REPORT



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WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 9/16/88 TICKET : 14546
CUSTOMER : GRAHAM-MICHAELIS CORPORATION LEASE : LOCKE BROS.
WELL : 5-19 TEST: 2 GEOLOGIST : ALBERTS
ELEVATION : 1930 GL FORMATION : CONGLOMERATE SD
SECTION : 19 TOWNSHIP : 10S
RANGE : 15W COUNTY : OSBORNE STATE : KANSAS
GAUGE SN# : 1566 RANGE : 4300 CLOCK : 12

INTERVAL FROM : 3483 TO : 3517 TOTAL DEPTH : 3517

DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 3478 SIZE : 6.75
PACKER DEPTH : 3483 SIZE : 6.75
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : RED TIGER RIG 2
MUD TYPE : CHEMICAL VISCOSITY : 42
WEIGHT : 9.8 WATER LOSS (CC) : 7.2
CHLORIDES (PPM) : 48000
JARS-MAKE : SERIAL NUMBER :
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 0 FT I.D. inch : 0.00
WEIGHT PIPE LENGTH : 560 FT I.D. inch : 2.70
DRILL PIPE LENGTH : 2903 FT I.D. inch : 3.80
TEST TOOL LENGTH : 20 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 34 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

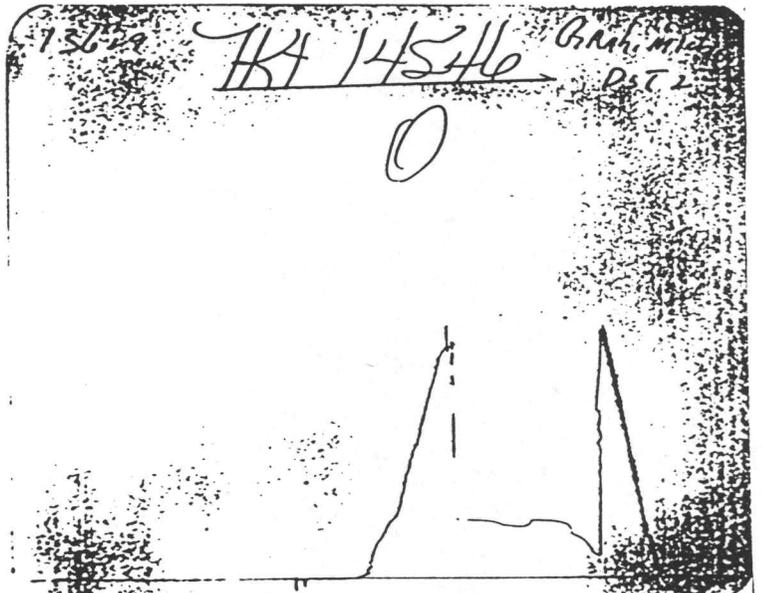
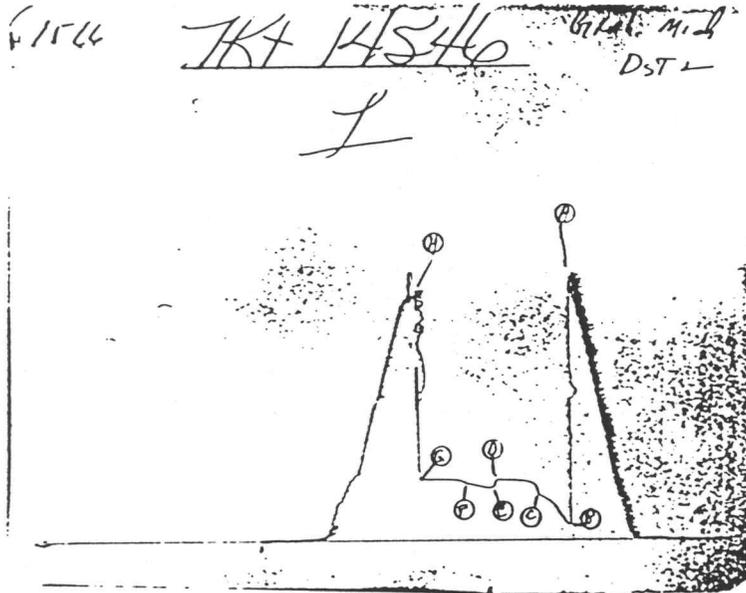
BLOW COMMENT #1 : INITIAL FLOW PERIOD STRONG BLOW-BOTTOM OF
BLOW COMMENT #2 : BUCKET IN 2 MINUTES.
BLOW COMMENT #3 : FINAL FLOW PERIOD STRONG BLOW-BOTTOM OF
BLOW COMMENT #4 : BUCKET IN 15 MINUTES.

RECOVERED : 890 FT OF: MUDDY WATER
RECOVERED : 0 FT OF: CHLORIDES 28000 PPM

Total Barrels Fluid = 8.59
Total Fluid Prod Rate = 190.39 BFPD
Indicated Wtr Rate = 142.80 BWPD

REMARK 1 :
REMARK 2 :
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 6:50 PM TIME STARTED OFF BOTTOM : 9:20 PM
WELL TEMPERATURE : 115
INITIAL HYDROSTATIC PRESSURE (A) 1986
INITIAL FLOW PERIOD MIN: 35 (B) 122 PSI TO (C) : 345
INITIAL CLOSED IN PERIOD MIN: 45 (D) 465
FINAL FLOW PERIOD MIN: 30 (E) 406 PSI TO (F) : 436
FINAL CLOSED IN PERIOD MIN: 45 (G) 471
FINAL HYDROSTATIC PRESSURE (H) 1893



WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : GRAHAM-MICHAELIS CORPORATION
RIG : OSBORNE-KANSAS
FIELD : LOCKE BROS.
WELL : 5-19
DATE : 9/16/88
GAUGE NO : 1566

OPERATIONAL COMMENTS

COMPANY : GRAHAM-MICHAELIS CORPORATION
 WELL : 5-19
 GAUGE # : 1566
 DATE : 16/ 9/88

FIELD : LOCKE BROS.
 JOB # : 14546
 DEPTH : 3517
 TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
INITIAL FLOW PERIOD					
2	6:50:0	0.000	122.000	115.00	0.000
3	6:54:59	0.083	140.000	115.00	18.000
4	7:0:0	0.167	196.000	115.00	56.000
5	7:5:0	0.250	253.000	115.00	57.000
6	7:9:59	0.333	291.000	115.00	38.000
7	7:15:0	0.417	322.000	115.00	31.000
8	7:24:59	0.583	339.000	115.00	17.000
9	7:24:59	0.583	345.000	115.00	6.000
INITIAL SHUT-IN PERIOD					
10	7:27:59	0.633	422.000	115.00	77.000
11	7:30:59	0.683	439.000	115.00	17.000
12	7:33:59	0.733	448.000	115.00	9.000
13	7:36:59	0.783	454.000	115.00	6.000
14	7:39:59	0.833	457.000	115.00	3.000
15	7:42:59	0.883	459.000	115.00	2.000
16	7:45:59	0.933	461.000	115.00	2.000
17	7:48:59	0.983	462.000	115.00	1.000
18	7:51:59	1.033	463.000	115.00	1.000
19	7:54:59	1.083	464.000	115.00	1.000
20	7:57:59	1.133	465.000	115.00	1.000
21	8:0:59	1.183	465.000	115.00	0.000
22	8:3:59	1.233	465.000	115.00	0.000
23	8:6:59	1.283	465.000	115.00	0.000
24	8:9:59	1.333	465.000	115.00	0.000
FINAL FLOW PERIOD					
25	8:11:0	1.350	406.000	115.00	-59.000
26	8:14:59	1.417	406.000	115.00	0.000
27	8:20:0	1.500	408.000	115.00	2.000
28	8:24:59	1.583	415.000	115.00	7.000
29	8:29:59	1.667	424.000	115.00	9.000
30	8:35:0	1.750	432.000	115.00	8.000
31	8:39:59	1.833	436.000	115.00	4.000
FINAL SHUT-IN PERIOD					
32	8:42:59	1.883	452.000	115.00	16.000
33	8:45:59	1.933	458.000	115.00	6.000
34	8:48:59	1.983	463.000	115.00	5.000
35	8:51:59	2.033	467.000	115.00	4.000
36	8:54:59	2.083	469.000	115.00	2.000
37	8:57:59	2.133	470.000	115.00	1.000
38	9:0:59	2.183	471.000	115.00	1.000
39	9:3:59	2.233	471.000	115.00	0.000
40	9:6:59	2.283	471.000	115.00	0.000
41	9:9:59	2.333	471.000	115.00	0.000
42	9:12:59	2.383	471.000	115.00	0.000
43	9:15:59	2.433	471.000	115.00	0.000
44	9:18:59	2.483	471.000	115.00	0.000
45	9:21:59	2.533	471.000	115.00	0.000
46	9:24:59	2.583	471.000	115.00	0.000