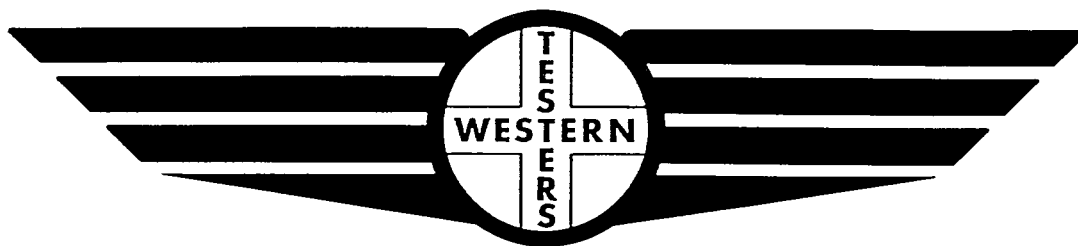


FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY HODGDEN OIL COMPANY

LEASE & WELL NO. #1-9 JANSSEN

SEC. 9 TWP. 18S RGE. 9W

TEST NO. 1

DATE 2/6/86

SUBSURFACE PRESSURE SURVEY

DATE : 2-6-86 TICKET : 9420
 CUSTOMER : HODGDEN OIL COMPANY LEASE : JANSSEN
 WELL : 1-9 TEST: 1 GEOLOGIST : HODGDEN
 ELEVATION : FORMATION : SIMPSON
 SECTION : 9 TOWNSHIP : 18S
 RANGE : 9W COUNTY : RICE STATE : KANSAS
 GAUGE SN# : 10270 RANGE : 4150 CLOCK : 12

INTERVAL FROM : 3265 TO : 3275 TOTAL DEPTH : 3275
 DEPTH OF SELECTIVE ZONE :
 PACKER DEPTH : 3260 SIZE : 6 5/8
 PACKER DEPTH : 3265 SIZE : 6 5/8
 PACKER DEPTH : SIZE :
 PACKER DEPTH : SIZE :

DRILLING CON. : ALLEN DRLG
 MUD TYPE : STARCH VISCOSITY : 43
 WEIGHT : 10.1 WATER LOSS (CC) : 10.4
 CHLORIDES (PPM) : 52000
 JARS-MAKE : SERIAL NUMBER :
 DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 0 FT I.D. inch : 0.00
 WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00
 DRILL PIPE LENGTH : 3241 FT I.D. inch : 3.80
 TEST TOOL LENGTH : 24 FT TOOL SIZE : 5.50
 ANCHOR LENGTH : 10 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 PERIOD WEAK 1/2" BLOW. FINAL
 BLOW COMMENT #2 : FLOW PERIOD WEAK BLOW. DIED IN 15 MINUTES.
 BLOW COMMENT #3 :
 BLOW COMMENT #4 :

RECOVERED : 30 FT OF: MUD WITH SHOW OF OIL 0.42 Barrels
 RECOVERED : 0 FT OF: ON TOP OF TOOL. 0.00 Barrels
 RECOVERED : 0 FT OF: 0.00 Barrels
 RECOVERED : 0 FT OF: 0.00 Barrels
 RECOVERED : 0 FT OF: 0.00 Barrels
 RECOVERED : 0 FT OF: 0.00 Barrels
 RECOVERED : 0 FT OF: 0.00 Barrels
 RECOVERED : 0 FT OF: 0.00 Barrels
 RECOVERED : 0 FT OF: 0.00 Barrels
 RECOVERED : 0 FT OF: 0.00 Barrels
 Total Barrels = 0.4 Total Production = 13.5 Bpd

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

SET PACKER(S) : 6:55 PM TIME STARTED OFF BOTTOM : 9:10 PM
 WELL TEMPERATURE : 102
 INITIAL HYDROSTATIC PRESSURE (A) 1859
 INITIAL FLOW PERIOD MIN: 15 (B) 26 PSI TO (C) : 26
 INITIAL CLOSED IN PERIOD MIN: 30 (D) 808
 FINAL FLOW PERIOD MIN: 30 (E) 28 PSI TO (F) : 28
 FINAL CLOSED IN PERIOD MIN: 60 (G) 802
 FINAL HYDROSTATIC PRESSURE (H) 1832

Pressure Transient Report

DATA FILE.....
COMPANY.....HODGDEN OIL COMPANY
DATE OF TEST.....2-6-86
FIELD NAME.....JANSSEN
WELL NAME.....1-9
LOCATION.....RICE-KANSAS
JOB NUMBER.....9420
GAUGE NUMBER.....10270
GAUGE DEPTH.....3275

COMMENTS

START UP TIME	(mo/da/yr)	(hr:min:sec)
	2./6/86.	6.: 55.: 0.

* COMPANY : HODGDEN OIL COMPANY ~ FIELD : JANSSEN

WELL : 1-9 * JOB # : 9420

GAUGE # : 10270 DEPTH : 3275

MON/DAY : 2/ 6

PAGE 1

REC#	REAL TIME HR:MIN:SEC	ELAPSE TIME MINS HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P (Po-Pi)	DP/DT Psi/hr
1	6:55: 0	0 0.000	26.00	102.0	0.00	0.00
2	7: 0: 0	5 0.083	26.00	102.0	0.00	0.00
3	7: 5: 0	10 0.167	26.00	102.0	0.00	0.00
4	7:10: 0	15 0.250	26.00	102.0	0.00	0.00
5	7:13: 0	18 0.300	302.00	102.0	276.00	5521.35
6	7:16: 0	21 0.350	537.00	102.0	511.00	4701.15
7	7:19: 0	24 0.400	631.00	102.0	605.00	1880.46
8	7:22: 0	27 0.450	687.00	102.0	661.00	1120.27
9	7:25: 0	30 0.500	720.00	102.0	694.00	659.36
10	7:28: 0	33 0.550	751.00	102.0	725.00	620.15
11	7:31: 0	36 0.600	774.00	102.0	748.00	460.11
12	7:34: 0	39 0.650	796.00	102.0	770.00	440.11
13	7:37: 0	42 0.700	805.00	102.0	779.00	180.04
14	7:40: 0	45 0.750	808.00	102.0	782.00	59.94
15	7:41: 0	46 0.767	28.00	102.0	2.00	-46811.43
16	7:45: 0	50 0.833	28.00	102.0	2.00	0.00
17	7:50: 0	55 0.917	28.00	102.0	2.00	0.00
18	7:55: 0	60 1.000	28.00	102.0	2.00	0.00
19	8: 0: 0	65 1.083	28.00	102.0	2.00	0.00
20	8: 5: 0	70 1.167	28.00	102.0	2.00	0.00
21	8:10: 0	75 1.250	28.00	102.0	2.00	0.00
22	8:13: 0	78 1.300	152.00	102.0	126.00	2480.61
23	8:16: 0	81 1.350	442.00	102.0	416.00	5801.42
24	8:19: 0	84 1.400	531.00	102.0	505.00	1780.43
25	8:22: 0	87 1.450	589.00	102.0	563.00	1160.28
26	8:25: 0	90 1.500	624.00	102.0	598.00	699.32
27	8:28: 0	93 1.550	656.00	102.0	630.00	640.16
28	8:31: 0	96 1.600	680.00	102.0	654.00	480.12
29	8:34: 0	99 1.650	697.00	102.0	671.00	340.08
30	8:37: 0	102 1.700	713.00	102.0	687.00	320.08
31	8:40: 0	105 1.750	728.00	102.0	702.00	299.71
32	8:43: 0	108 1.800	739.00	102.0	713.00	220.05
33	8:46: 0	111 1.850	750.00	102.0	724.00	220.05
34	8:49: 0	114 1.900	757.00	102.0	731.00	140.03
35	8:52: 0	117 1.950	764.00	102.0	738.00	140.03
36	8:55: 0	120 2.000	771.00	102.0	745.00	139.86
37	8:58: 0	123 2.050	778.00	102.0	752.00	140.03
38	9: 1: 0	126 2.100	784.00	102.0	758.00	120.03
39	9: 4: 0	129 2.150	790.00	102.0	764.00	120.03
40	9: 7: 0	132 2.200	796.00	102.0	770.00	120.03
41	9:10: 0	135 2.250	802.00	102.0	776.00	119.88

COMPANY :HODGDEN OIL COMPANY
WELL :1-9
FIELD :JANSSEN
LOCATION :RICE-KANSAS
DATE OF TEST :2-6-86
GAUGE-DEPTH :10270/3275
JOB NUMBER :9420

REGRESSION BASED ON HORNER PRESSURE ANALYSIS

REGRESSION RUN THRU THE FOLLOWING POINTS

STARTING AT: .583 TO: 1

STANDARD DEVIATION OF ESTIMATE : 4.0234
COEFFICIENT OF DETERMINATION : .9681
ERROR SUM OF SQUARES IS EQUAL TO : 16.1884

PSTAR = 949.2753
P@ 1HOUR = 877.3218
SLOPE = 742.4819

COMPANY : HODGDEN OIL COMPANY

FIELD : JANSSEN

WELL : 1-9

JOB # : 9420

GAUGE # : 10270

DEPTH : 3275

MON/DAY : 2/ 6

PAGE 1

TEST REPORTED : SHUTIN 1
PRODUCTION Tp : 15 Minutes

REC#	REAL TIME HR:MIN:SEC	ELAPSE TIME MINS HOURS	PRESSURE PSIG	TEMP DEG F	HORNER dt/(T+dt)	DELTA P PSIG
4	7:10: 0	15 0.000	26.00	102.0	0.000000000	0.00
5	7:13: 0	18 0.050	302.00	102.0	0.16663276	276.00
6	7:16: 0	21 0.100	537.00	102.0	0.28566447	511.00
7	7:19: 0	24 0.150	631.00	102.0	0.37494278	605.00
8	7:22: 0	27 0.200	687.00	102.0	0.44438416	661.00
9	7:25: 0	30 0.250	720.00	102.0	0.50000000	694.00
10	7:28: 0	33 0.300	751.00	102.0	0.54544443	725.00
11	7:31: 0	36 0.350	774.00	102.0	0.58331639	748.00
12	7:34: 0	39 0.400	796.00	102.0	0.61536294	770.00
13	7:37: 0	42 0.450	805.00	102.0	0.64283222	779.00
14	7:40: 0	45 0.500	808.00	102.0	0.66666669	782.00

COMPANY :HODGDEN OIL COMPANY
WELL :1-9
FIELD :JANSSEN
LOCATION :RICE-KANSAS
DATE OF TEST :2-6-86
GAUGE-DEPTH :10270/3275
JOB NUMBER :9420

REGRESSION BASED ON HORNER PRESSURE ANALYSIS

REGRESSION RUN THRU THE FOLLOWING POINTS

STARTING AT: .615 TO: 1

STANDARD DEVIATION OF ESTIMATE : .4072
COEFFICIENT OF DETERMINATION : .9981
ERROR SUM OF SQUARES IS EQUAL TO : .3316

PSTAR = 917.033
P@ 1HOUR = 800.6975
SLOPE = 660.6585

COMPANY : HODGDEN OIL COMPANY

FIELD : JANSSEN

WELL : 1-9

JOB # : 9420

GAUGE # : 10270

DEPTH : 3275

MON/DAY : 2/ 6

PAGE 1

TEST REPORTED : SHUTIN 2
PRODUCTION Tp : 30 Minutes

REC#	REAL TIME HR:MIN:SEC	ELAPSE TIME MINS HOURS	PRESSURE PSIG	TEMP DEG F	HORNER dt/(T+dt)	DELTA P PSIG
21	8:10: 0	75 0.000	28.00	102.0	0.00000000	0.00
22	8:13: 0	78 0.050	152.00	102.0	0.09088891	124.00
23	8:16: 0	81 0.100	442.00	102.0	0.16663276	414.00
24	8:19: 0	84 0.150	531.00	102.0	0.23072588	503.00
25	8:22: 0	87 0.200	589.00	102.0	0.28566447	561.00
26	8:25: 0	90 0.250	624.00	102.0	0.33333334	596.00
27	8:28: 0	93 0.300	656.00	102.0	0.37499046	628.00
28	8:31: 0	96 0.350	680.00	102.0	0.41174781	652.00
29	8:34: 0	99 0.400	697.00	102.0	0.44442183	669.00
30	8:37: 0	102 0.450	713.00	102.0	0.47365716	685.00
31	8:40: 0	105 0.500	728.00	102.0	0.50000000	700.00
32	8:43: 0	108 0.550	739.00	102.0	0.52380401	711.00
33	8:46: 0	111 0.600	750.00	102.0	0.54544443	722.00
34	8:49: 0	114 0.650	757.00	102.0	0.56520355	729.00
35	8:52: 0	117 0.700	764.00	102.0	0.58331639	736.00
36	8:55: 0	120 0.750	771.00	102.0	0.60000002	743.00
37	8:58: 0	123 0.800	778.00	102.0	0.61538100	750.00
38	9: 1: 0	126 0.850	784.00	102.0	0.62962294	756.00
39	9: 4: 0	129 0.900	790.00	102.0	0.64284778	762.00
40	9: 7: 0	132 0.950	796.00	102.0	0.65516078	768.00
41	9:10: 0	135 1.000	802.00	102.0	0.66666669	774.00

WELL TEST ANALYSIS REPORT HORNER METHOD

COMPANY :HODGDEN OIL COMPANY
DATE :2-6-86
FIELD :JANSSEN
WELL :1-9
AREA :RICE-KANSAS
JOB NUMBER :9420
GAUGE NUMBER :10270
GAUGE DEPTH :3275
ZONE TESTED :SIMPSON

=====I=N=P=U=T====D=A=T=A====S=U=M=M=A=R=Y=====

NETPAY	H	10.0	Feet
POROSITY	POR	0.18	Frac
VISCOSITY	U	1.2000	Cp
FORMATION VOLUME FACTOR	B	1.04	Rb/stb
TOTAL COMPRESSIBILITY	Ct	25.000D-06	Psi ⁻¹
WELLBORE RADIUS	Rw	0.520	Feet
DRAINAGE RADIUS	Re	1500.0	Feet
RESERVOIR TEMPERATURE	T	102.0	Deg F
GRAVITY OF FLUID	G	34.0	
INITIAL PRESSURE	Pi	260.00E+01	Psig
PRESSURE AT SHUT-IN	Pwf	280.00E+01	Psig
FINAL BUILDUP PRESSURE	Ps	802.00E+00	Psig
FLOW RATE at SHUT-IN	Q	13.5	Bbl/day
TOTAL FLOW TIME	T	0.8	Hours

=====R=E=G=R=E=S=S=I=O=N====R=E=S=U=L=T=S=====

LEAST SQUARE RESULTS OVER THE INTERVAL :
FROM .01 TO 1

SLOPE OF THE LINE	660.00E+00	psi/cycle
FALSE PRESSURE, PSTAR	917.00E+00	psi
PRESSURE AT 1 HOUR	800.00E+00	psi

=====A=N=A=L=Y=S=I=S====R=E=S=U=L=T=S=====

TRANSMISSIBILITY	Kh/u	3.46	md-ft/cp
FLOW CAPACITY	Kh	4.15	md-ft
PERMEABILITY to PHASE	K	0.42	md
DAMAGE RATIO	Dr	0.7	
RADIUS OF INVESTIGATION	Rinv	7.8	ft
SKIN FACTOR	S	-0.8	
AVERAGE PRESSURE	Pbar	916.99E+00	psig
DIMENSIONLESS TIME	Tda	0.000	
MATTHEWS-BRONS-HAZEBROEK	PDmbh	0.000	

COMPANY: HOBBS OIL COMPANY
FIELD: JANSSEN

WELL NO. 1
LOCATION: RICE-KANSAS

PROCESSED: 1 3 88
ENGINEER: WESTERN

1020
Date of Test--2-6-86
Gauge#/Depth--10270/3275
Type of Test--SHUTIN1
Tp = .25

960

900

840

780

720

660

600

Pstar = 949
P1hr = 877
Slope = 742

Pressure, Psig

.02

.04

.06

.08

1

2

4

6

8

10

Horner Ratio, $dt/(T+dt)$

RES-TRAN (tm)

Job No. 9420
RES-SOFT INC

COMPANY: HOOVER OIL COMPANY
FIELD: JANSSEN

WELL NO. 10
LOCATION: RICE-KANSAS

PROCESSED: 10-88
ENGINEER: WESTERN

1020
Date of Test--2-6-86
Gauge#/Depth--10270/3275
Type of Test--SHUTIN2
Tp = .5

960

Pstar = 917
P1hr = 800
Slope = 660

900

840

780

720

660

600

0.2

0.4

0.6

0.8

1

2

4

6

8

1

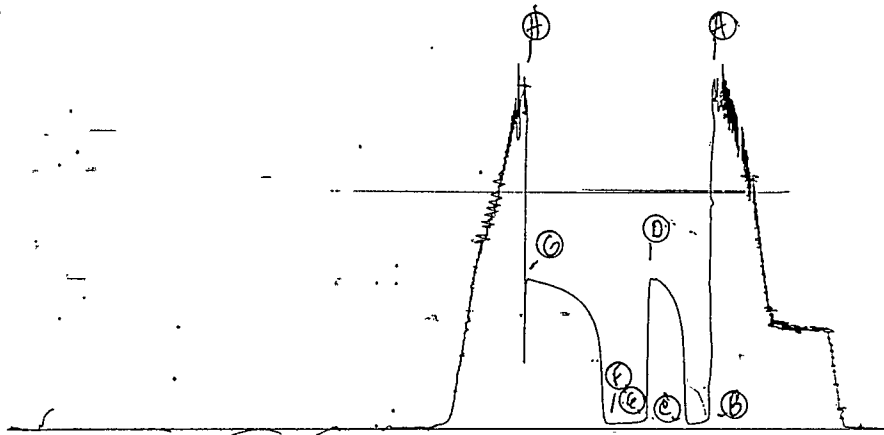
Horner Ratio, $dt/(T+dt)$

RES-TRAN (tm)

Job No. 9420
RES-SOFT INC

Plot # 9420
I

10270



JKt, #9450
0

13268