

MILLER TESTING COMPAN.

Box 547

3

GREAT BEND, KANSAS

Company CITIES SERVICE OIL COMPANY

Lease and Well No. MOORE #D-2

County NESS State KANSAS Date 3-5-65

Formation Test No. #1 Total Depth 4386

Interval Tested 4365 To 4386 Anchor Length 21'

Size Hole 7 7/8 Size Drill Pipe 4 1/2 ACME Size Packer 6 3/4

Mud Weight 10 Viscosity 57 Bottom Hole Temp. 116 ° F

Chokes: Top 1/2 Bottom 1/2 Ticket No. 7331

RECOVERY

GOOD BLOW THROUGHOUT TEST

47' GAS IN PIPE
139' GASSY MUDDY OIL

Lease and Well No. MOORE #D-2 30 19 21W

Formation Test No. #1

COMPANY CITIES SERVICE OIL COMPANY DATE 3-5-65

LEASE MOORE WELL NO. D-2 TEST NO. 1 TICKET NO. 7331

	TIME	PSI
INITIAL HYDRO MUD PRESSURE	----	2346
INITIAL CLOSED IN PRESSURE	30 MINS	1332
INITIAL FLOW	-----	43
FINAL FLOW	65 MINS	69
FINAL CLOSED IN PRESSURE	30 MINS	1319
FINAL HYDRO MUD PRESSURE	----	2320

TOTAL DEPTH 4386

PACKER DEPTH 4365

BT. NO. 2162 DEPTH 4381

	1ST FLOW PRESSURE		INITIAL CIP		2ND FLOW PRESSURE		FINAL CIP	
	TIME DEFL. .000"	PSI TEMP. CORR.	TIME DEFL. .000"	PSI TEMP. CORR.	TIME DEFL. .000"	PSI TEMP. CORR.	TIME DEFL. .000"	PSI TEMP. CORR.
P0	.000	43	.000	43	.000	52	.000	69
P1	.042	43	.042	1081	.042	52	.042	1167
P2	.083	43	.083	1254	.083	52	.083	1245
P3	.125	43	.125	1297	.125	52	.125	1280
P4	.167	43	.167	1314	.167	56	.167	1297
P5			.209	1323	.209	60	.209	1314
P6			.250	1332	.250	63	.250	1319
P7					.292	65		
P8					.333	67		
P9					.375	69		
P10								
	5	MINUTE INTERVAL	5	MINUTE INTERVAL	5	MINUTE INTERVAL	5	MINUTE INTERVAL

REMARKS _____

SPECIAL PRESSURE DATA

MILLER TESTING COMPANY

Box 547

GREAT BEND, KANSAS

3

Company CITIES SERVICE OIL COMPANY

Lease and Well No. MOORE #D-2

County NESS State KANSAS Date 3-5-65

Formation Test No. #2 Total Depth 4393

Interval Tested 4386 To 4393 Anchor Length 7'

Size Hole 7 7/8 Size Drill Pipe 4 1/2 ACME Size Packer 6 3/4

Mud Weight 10.1 Viscosity 41 Bottom Hole Temp 118 ° F

Chokes: Top 1/2 Bottom 1/2 Ticket No. 7332

RECOVERY

STRONG FLOW THROUGHOUT TEST

502' GAS IN PIPE
1291' FREE OIL
78' MUDDY OIL

Lease and Well No.

MOORE #D-2

30 19 21W

Formation Test No.

COMPANY CITIES SERVICE OIL COMPANY DATE 3-5-65

LEASE MOORE WELL NO. D-2 TEST NO. 2 TICKET NO. 7332

	TIME	PSI
INITIAL HYDRO MUD PRESSURE	----	2320
INITIAL CLOSED IN PRESSURE	30 MINS	1306
INITIAL FLOW	-----	86
FINAL FLOW	45 MINS	475
FINAL CLOSED IN PRESSURE	30 MINS	1280
FINAL HYDRO MUD PRESSURE	----	2294

TOTAL DEPTH 4393

PACKER DEPTH 4386

BT. NO. 2162 DEPTH 4388

	1ST FLOW PRESSURE		INITIAL CIP		2ND FLOW PRESSURE		FINAL CIP	
	TIME DEFL. .000"	PSI TEMP. CORR.	TIME DEFL. .000"	PSI TEMP. CORR.	TIME DEFL. .000"	PSI TEMP. CORR.	TIME DEFL. .000"	PSI TEMP. CORR.
P0	.000	86	.000	216	.000	259	.000	475
P1	.042	112	.042	1219	.042	277	.042	1185
P2	.083	164	.083	1254	.083	329	.083	1220
P3	.125	216	.125	1271	.125	363	.125	1241
P4			.167	1289	.167	406	.167	1263
P5			.209	1297	.209	432	.209	1271
P6			.250	1306	.250	475	.250	1280
P7								
P8								
P9								
P10								
	5	MINUTE INTERVAL	5	MINUTE INTERVAL	5	MINUTE INTERVAL	5	MINUTE INTERVAL

REMARKS _____

SPECIAL PRESSURE DATA

3-5-65
 5251 - 2767
 20 - 4382

(1)	Q - PRODUCING RA , BPD,	_____	
(2)	U - VISCOSITY, CENT,	5.1	
(3)	B - FVF	_____	
(4)	M - SLOPE OF B-U CURVE, PSI/CYCLE	137	
(5)	H - THICKNESS OF PRODUCING ZONE, FEET,	7	
(6)	K - PERM., MD. = 162.5 Q U B / M H	_____	246
(7)	P ₁ - PRESSURE ON SLOPE @ 1 HOUR, PSI,	1307	
(8)	P ₂ - PRESSURE @ 1 SEC. = (P ₁ - 3.56 M)	_____	
(9)	P _F - FLOWING PRESSURE, PSI,	_____	
(10)	2.302(P ₂ - P _F) / M	_____	
(11)	R _W - RADIUS OF DRILLED HOLE, INCHES,	_____	
(12)	F - POROSITY, FRACTION, (ESTIMATE)	_____	
(13)	C - COMPRESS., VOL/VOL/PSI X 10 ⁶	10	
(14)	2.30 LOG ₁₀ { $\frac{10.5 K}{F C U R_W R_W}$ } + 0.8	14.57	
(15)	S - SKIN, DIMENSIONLESS, = [(10) - (14)] / 2	_____	2.000
(16)	ΔP _S - PRESS. DROP DUE TO SKIN = (.868 M S)	420	
(17)	P _F [*] - FLOWING PRESS. W/NO SKIN = (P _F + ΔP _S)	525	
(18)	P _E - FINAL PRESSURE, PSI,	300	
(19)	(P _E - P ₁)	330	
(20)	ΔP̄ = 1.151(P _E - P ₁) / M	_____	
(21)	T̄ - DIMENSIONLESS TIME @ 1 HOUR (FIG.1)	1270	
(22)	FR _E ² = 264 K / U C T̄	1000	
(23)	(P _E - P _F [*])	225	
(24)	LOG ₁₀ R̄ = (23) / 2 M	2.27	
(25)	R̄ - DRAINAGE RADIUS/RADIUS DRILLED HOLE	1.70	
(26)	R _E - DRAINAGE RADIUS, FT. = (25) X R _W / 12	2.52	1.100
(27)	F - POROSITY, FRACTION, = (22) / (26) (26)	_____	1.150
(28)	PI - PRODUCTIVITY INDEX = Q / (P _E - P _F)	_____	1.10
(29)	PI* - PI W/NO SKIN = Q / (P _E - P _F [*])	_____	1.10
(30)	E - COMPLETION EFFICIENCY = 100 X (28) / (29)	_____	_____

FIELD _____
 WELL _____
 FORMATION _____
 PRODUCING INTERVAL _____
 PRESSURE BUILDUP CALCULATIONS