

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

WELL API NO. 30-025-34956

5. Indicate Type of Lease STATE ☒ FREE ☐

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT"
(FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name
Magua "20" St.

1. Type of Well:

OIL WELL	☐	GAS WELL	☒	OTHER
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2. Name of Operator
Patterson Petroleum LP

3. Address of Operator P.O. Drawer 1416
Snyder, TX 79550

8. Well No.

4. Well Location

Unit Letter L : 1455 Feet From The South Line and 665 Feet From The West Line

Section 20 Township 17S Range 34E NMPM Lea County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)
4080' GL

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐
OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☒ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐
CASING TEST AND CEMENT JOB ☐
OTHER: ☐

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

04/01/00 6898' - 7417' - Drilled/surveyed.
04/02/00 7417' - 7897' - Drilled.
04/03/00 7897' - 8384' - Drilled/surveyed.
04/04/00 8384' - 8831' - Drilled/surveyed.
04/05/00 8831' - 9267' - Drilled/surveyed.
04/06/00 9267' - 9681' - Drilled/surveyed.
04/07/00 9681' - 10,107' - Drilled/surveyed. Pulled out of the hole for bit.
04/08/00 10,107' - 10,229' - Drilled. Trip for bit #7.
04/09/00 10,229' - 10,670' - Drilled/Surveyed.
04/10/00 10,670' - 11,114' - Drilled/surveyed.
04/11/00 11,114' - 11,212' - Drilled/surveyed. Trip to check bit & change BHA.
04/12/00 11,212' - 11,394' - Drilled.
04/13/00 11,394' - 11,575' - Drilled.
04/14/00 11,575' - 11,643' - Drilled/surveyed. Trip for bit #8 & cut drilling line. (OVER)

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE John R. Bush TITLE Petroleum Engineer DATE _____

TYPE OR PRINT NAME Nolan von Roeder

TELEPHONE NO. 915/573-1938

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

04/15/00 11,643' - 11,720' - Drilled & rig service.
04/16/00 11,720' - 11,833' - Drilled & trip for hole in drillpipe.
04/17/00 11,833' - 11,946' - Drilled.
04/18/00 11,946' - 12,090' - Drilled/surveyed.
04/19/00 12,090' - 12,207' - Drilled.
04/20/00 12,207' - 12,358' - Drilled.
04/21/00 12,358' - 12,455' - Drilled/surveyed. Trip for bit #9.
04/22/00 12,455' - 12,600' - Drilled, installed rotate rubber & repacked swivel.
04/23/00 12,600' - 12,745' - Drilled.
04/24/00 12,745' - 12,816' - Drilled/surveyed. Circulated & conditioned for DST #1.
04/25/00 12,816' - 12,816' - Circulated, trip & ran DST.(12,770' to 12,816')
04/26/00 12,816' - 12,868' - Drilled, finished DST & trip.
04/27/00 12,868' - 12,996' - Drilled.
04/28/00 12,996' - 13,141' - Drilled.
04/29/00 13,141' - 13,282' - Drilled.
04/30/00 13,282' - 13,410' - Drilled/surveyed.

Received
Hobbs
000



COMPANY : PATTERSON PETROLEUM
LEASE : MAGUA STATE "20"
WELL NO. : # 1
FIELD : N. VACUUM
COUNTY/STATE : LEA / NEW MEXICO

TEST DATE : 04/26/00
D.S.T. NO. : 1
TEST TKT. NO. : 21038
INVOICE NO. : 19102
ORDER NO. :

FORMATION : ATOKA
INTERVAL (ft) : 12770 TO 12816
TOTAL DEPTH (ft) : 12816
ELEVATION (ft) : 4080

HOLE SIZE (in) : 8.750
DRILL PIPE ID (in) : 3.82
DRILL COLLAR ID (in) : 2.25
DRILL COLLAR feet : 673

ANCHOR LENGTH (ft) : 46
TOOL LENGTH (ft) : 70
TOOL O.D. (in) : 5
PACKER SIZE (in) : 7.50

RECORDER DATA
AK-IKUSTER / AMERADA

TOP RECORDER: IN
RECORDER NO. : 13709
CAPACITY (psi) : 7350
DEPTH (ft) : 12740
CLOCK NO. : 12813
DURATION (hrs) : 18

BOTTOM RECORDER: OUT
RECORDER NO. : 86820
CAPACITY (psi) : 10000
DEPTH (ft) : 12745
CLOCK NO. : 86820
DURATION (hrs) : 96

MUD PROPERTIES

MUD TYPE : S.GEL / STARCH
MUD WT. (#/gal) : 9.60

WATER LOSS (cc) : 7.00
FILTER CAKE (in) : 1/32
VISCOSITY (sec) : 40

CHLORIDE PPM : 68000
RESISTIVITY (ohm-m) : .135

EQUIPMENT DATA

CONVENTIONAL : YES
STRADDLE : NO
SELECTIVE ZONE : NO
SAMPLE CHAMBER : YES
GAS ANALYSIS : NO

ROTARY JARS : YES
NO. OF PACKERS : 2L
SAFETY JOINT : YES
CIRCULATING SUB : YES
REVERSED OUT : NO

MULTIFLOW : NO
MILEAGE : NO
OPERATOR TIME : NO
OTHER : YES
AMERADA ELECTRONIC

SUCCESSFUL : YES

PACKER FAILURE : NO

TOOL PLUG : NO

DECIDED NOT TO TEST : NO

FAIL TO REACH BOTTOM : NO

TIME INTERVAL DATA (min)

TOOL OPENED : 2:00 AM

TOTAL TEST TIME: 331

INITIAL FLOW : 29
SECOND FLOW : 58
THIRD FLOW :

INITIAL SHUT-IN: 63
SECOND SHUT-IN : 181
THIRD SHUT IN :

TEST TOOL OPERATOR: TOMMY WILLIAMS

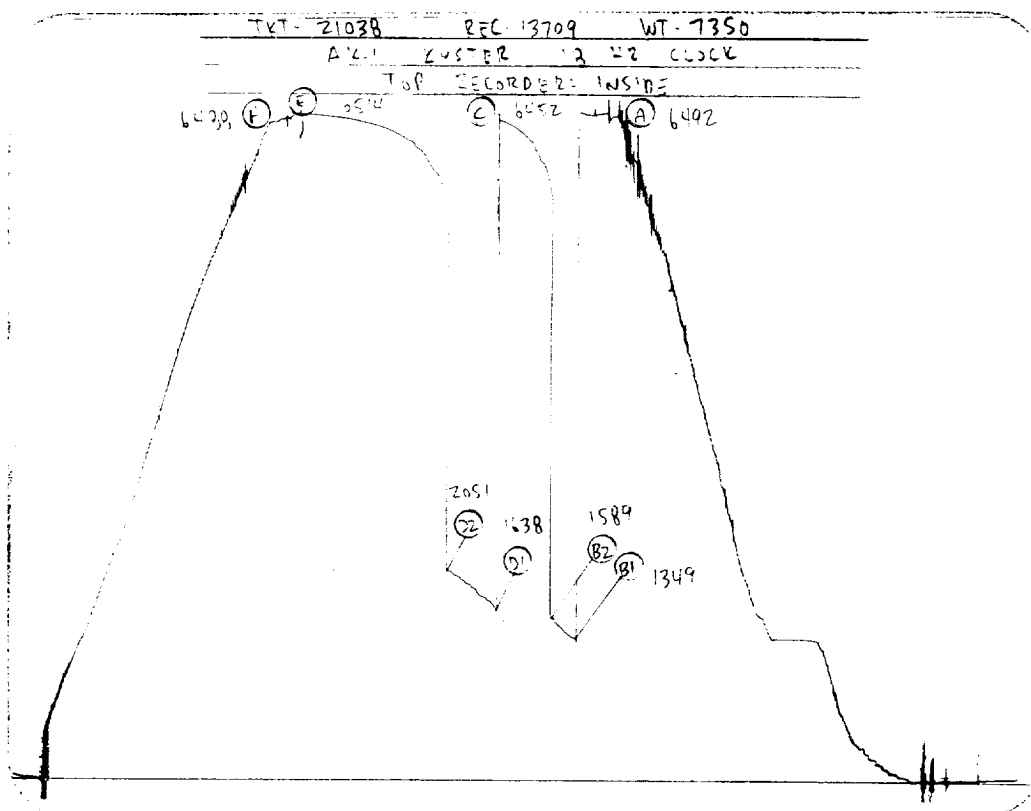


PATTERSON PETROLEUM

MAGUA STATE "20" # 1

D.S.T. NO. : 1

		CORRECTED READING	FIELD READING
A	INITIAL HYDROSTATIC:	6492 PSI	6387 PSI
B-1	INITIAL FIRST FLOW :	1349 PSI	1353 PSI
B-2	FINAL FIRST FLOW :	1589 PSI	1555 PSI
C	FIRST SHUT-IN :	6452 PSI	6312 PSI
D-1	INITIAL SECOND FLOW:	1638 PSI	1629 PSI
D-2	FINAL SECOND FLOW :	2051 PSI	1996 PSI
E	SECOND SHUT-IN :	6514 PSI	6387 PSI
H	FINAL HYDROSTATIC :	6488 PSI	6331 PSI



RECOVERY DATA

PIPE RECOVERY

B.H. TEMP. (deg F) : 183

SAMPLE CHAMBER

4575 FT. OF TOTAL FLUID
2500 FT. OF WATER BLANKET
300 FT. OF WATER BLANKET (TRACE OF GAS)
1775 FT. OF SULPHUR WATER
20,000 MG/L CHLORIDES- .40 OHMS @ 85 DEGREES
(RAN 2805 FT. OF WATER BLANKET-2,000 MG/L CHLORIDES-
3.5 OHMS @ 85 DEGREES)

1500 LBS. OF PRESSURE
.50 CU. FT. OF GAS
2000 CC'S OF SULPHUR WATER
20,000 MG/L CHLORIDES
.40 OHMS @ 85 DEGREES

TEST REMARKS

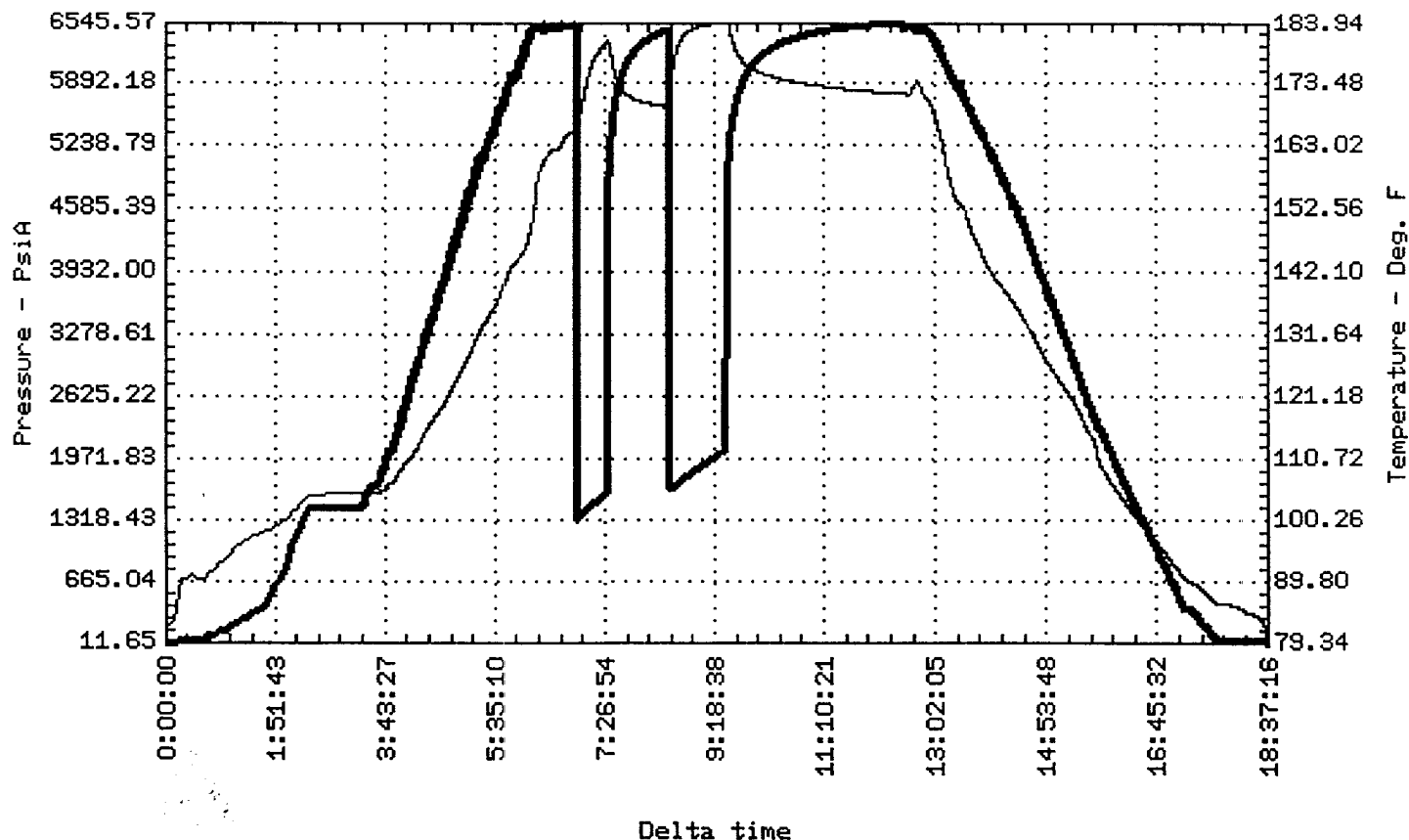
TOOL OPENED WITH VERY WEAK BLOW (2" IN WATER) WHICH INCREASED TO GOOD BLOW (18" IN WATER) IN 11 MIN. & 15.5 OZS. AT END OF THE 30 MIN. FIRST FLOW. REOPENED TOOL WITH VERY WEAK BLOW (1" IN WATER) WHICH INCREASED TO GOOD BLOW (18" IN WATER) IN 12 MIN., 7 OZS. ON 1/4" CHOKE IN 20 MIN. & THEN BEGAN DECREASING IN 30 MIN. TO .50 OZ. AT END OF THE 60 MIN. FINAL FLOW PERIOD.

LOGGED PRESSURE / TEMPERATURE DATA

File name: PATT1

Company : PATTERSON PETROLEUM CO.
Client : LANNY ASHWORTH
Gauge number : 86820
Well name : MAGUA STATE "20"
Well number : 1
Test number : 1
Field name : N. VACUUM
Test operator : TOMMY WILLIAMS
Comments : 12770 - 12816 FT. ATOKA SAND
:

Starting date: 04/26/2000
time: 02:00:00



INCREMENTAL PRESSURE DATA

RECORDER NO : 86820

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 12745 ft

ELAPSED TIME ---MIN----	TOTAL FLOW TIME, T ---MIN----	INCREMENTAL SHUT-IN TIME, DT ---MIN----	(T+DT)/DT (HORNER) -----	PRESSURE ---PSIG---	DELTA P ---PSIG---
FIRST FLOW					
.0	.0			1347.60	.00
3.0	3.0			1353.18	5.58
6.0	6.0			1388.93	41.33
9.0	9.0			1418.90	71.30
12.0	12.0			1446.63	99.03
15.0	15.0			1474.40	126.80
18.0	18.0			1500.20	152.60
21.0	21.0			1526.50	178.90
24.0	24.0			1551.93	204.33
27.0	27.0			1577.57	229.97
29.4	29.4			1597.70	250.10
FIRST SHUT-IN					
29.4	29.4	.00	.000	1597.70	.00
29.9	29.4	.50	59.800	3554.90	1957.20
30.4	29.4	1.00	30.400	4428.48	2830.78
30.9	29.4	1.50	20.600	4720.55	3122.85
31.4	29.4	2.00	15.700	4903.81	3306.11
31.9	29.4	2.50	12.760	5019.87	3422.17
32.4	29.4	3.00	10.800	5112.92	3515.22
32.9	29.4	3.50	9.400	5191.80	3594.10
33.4	29.4	4.00	8.350	5268.63	3670.93
33.9	29.4	4.50	7.533	5329.45	3731.75
34.4	29.4	5.00	6.880	5384.67	3786.97
35.4	29.4	6.00	5.900	5485.17	3887.47
36.4	29.4	7.00	5.200	5569.14	3971.44
37.4	29.4	8.00	4.675	5640.96	4043.26
38.4	29.4	9.00	4.267	5706.60	4108.90
39.4	29.4	10.00	3.940	5761.70	4164.00
41.4	29.4	12.00	3.450	5857.50	4259.80
43.4	29.4	14.00	3.100	5935.32	4337.62
45.4	29.4	16.00	2.838	6000.14	4402.44
47.4	29.4	18.00	2.633	6055.70	4458.00
49.4	29.4	20.00	2.470	6104.82	4507.12
52.4	29.4	23.00	2.278	6161.43	4563.73
55.4	29.4	26.00	2.131	6208.53	4610.83
58.4	29.4	29.00	2.014	6248.41	4650.71
61.4	29.4	32.00	1.919	6282.81	4685.11
64.4	29.4	35.00	1.840	6311.75	4714.05
67.4	29.4	38.00	1.774	6338.17	4740.47
70.4	29.4	41.00	1.717	6360.93	4763.23
73.4	29.4	44.00	1.668	6381.02	4783.32
76.4	29.4	47.00	1.626	6398.53	4800.83
79.4	29.4	50.00	1.588	6414.33	4816.63
82.4	29.4	53.00	1.555	6428.68	4830.98

INCREMENTAL PRESSURE DATA

RECORDER NO : 86820

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 12745 ft

ELAPSED TIME ---MIN---	TOTAL FLOW TIME, T ---MIN---	INCREMENTAL SHUT-IN TIME, DT ---MIN---	(T+DT)/DT (HORNER) -----	PRESSURE ---PSIG---	DELTA P ---PSIG---
FIRST SHUT-IN					
85.4	29.4	56.00	1.525	6441.63	4843.93
88.4	29.4	59.00	1.498	6453.65	4855.95
91.4	29.4	62.00	1.474	6464.27	4866.57
92.2	29.4	62.76	1.468	6466.90	4869.20
SECOND FLOW					
92.6	29.9			1644.40	.00
97.6	34.9			1672.33	27.93
102.6	39.9			1716.38	71.98
107.6	44.9			1758.30	113.90
112.6	49.9			1797.87	153.47
117.6	54.9			1836.12	191.72
122.6	59.9			1873.05	228.65
127.6	64.9			1908.93	264.53
132.6	69.9			1944.69	300.29
137.6	74.9			1979.10	334.70
142.6	79.9			2013.20	368.80
147.6	84.9			2046.20	401.80
150.3	87.5			2063.20	418.80
SECOND SHUT-IN					
150.3	87.5	.00	.000	2063.20	.00
151.3	87.5	1.00	88.540	4457.23	2394.03
152.3	87.5	2.00	44.770	4900.87	2837.67
153.3	87.5	3.00	30.180	5095.60	3032.40
154.3	87.5	4.00	22.885	5219.58	3156.38
155.3	87.5	5.00	18.508	5323.17	3259.97
156.3	87.5	6.00	15.590	5404.92	3341.72
157.3	87.5	7.00	13.506	5479.18	3415.98
158.3	87.5	8.00	11.943	5540.17	3476.97
159.3	87.5	9.00	10.727	5596.40	3533.20
160.3	87.5	10.00	9.754	5645.58	3582.38
162.3	87.5	12.00	8.295	5730.65	3667.45
164.3	87.5	14.00	7.253	5801.31	3738.11
166.3	87.5	16.00	6.471	5860.93	3797.73
168.3	87.5	18.00	5.863	5912.27	3849.07
170.3	87.5	20.00	5.377	5957.07	3893.87
173.3	87.5	23.00	4.806	6014.13	3950.93
176.3	87.5	26.00	4.367	6062.94	3999.74
179.3	87.5	29.00	4.019	6103.90	4040.70
182.3	87.5	32.00	3.736	6139.60	4076.40

INCREMENTAL PRESSURE DATA

RECORDER NO : 86820

RECORDER CAPACITY : 10000 psi

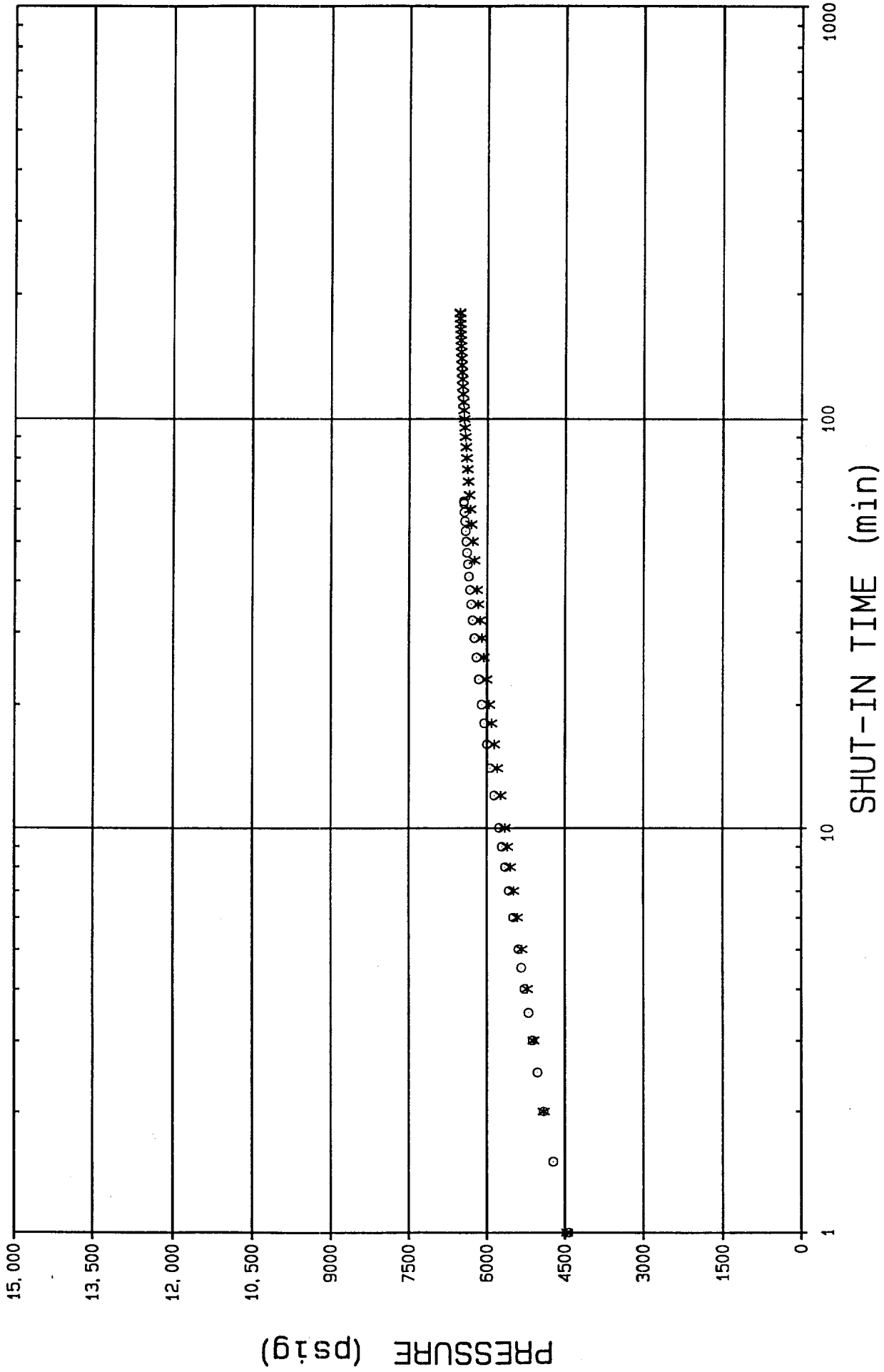
RECORDER DEPTH : 12745 ft

ELAPSED TIME ---MIN----	TOTAL FLOW TIME, T ---MIN----	INCREMENTAL SHUT-IN TIME, DT ---MIN----	(T+DT)/DT (HORNER) -----	PRESSURE ---PSIG---	DELTA P ---PSIG---
		SECOND SHUT-IN			
185.3	87.5	35.00	3.501	6171.40	4108.20
188.3	87.5	38.00	3.304	6199.15	4135.95
195.3	87.5	45.00	2.945	6253.90	4190.70
200.3	87.5	50.00	2.751	6285.67	4222.47
205.3	87.5	55.00	2.592	6312.93	4249.73
210.3	87.5	60.00	2.459	6337.05	4273.85
215.3	87.5	65.00	2.347	6357.83	4294.63
220.3	87.5	70.00	2.251	6376.53	4313.33
225.3	87.5	75.00	2.167	6393.00	4329.80
230.3	87.5	80.00	2.094	6407.78	4344.58
235.3	87.5	85.00	2.030	6421.35	4358.15
240.3	87.5	90.00	1.973	6433.45	4370.25
245.3	87.5	95.00	1.921	6444.46	4381.26
250.3	87.5	100.00	1.875	6454.57	4391.37
255.3	87.5	105.00	1.834	6463.70	4400.50
260.3	87.5	110.00	1.796	6472.28	4409.08
265.3	87.5	115.00	1.761	6480.08	4416.88
270.3	87.5	120.00	1.730	6487.08	4423.88
275.3	87.5	125.00	1.700	6493.25	4430.05
280.3	87.5	130.00	1.673	6499.45	4436.25
285.3	87.5	135.00	1.648	6504.90	4441.70
290.3	87.5	140.00	1.625	6510.12	4446.92
295.3	87.5	145.00	1.604	6516.28	4453.08
300.3	87.5	150.00	1.584	6521.30	4458.10
305.3	87.5	155.00	1.565	6525.87	4462.67
310.3	87.5	160.00	1.547	6530.13	4466.93
315.3	87.5	165.00	1.531	6534.25	4471.05
320.3	87.5	170.00	1.515	6538.02	4474.82
325.3	87.5	175.00	1.500	6541.63	4478.43
330.3	87.5	180.00	1.486	6545.05	4481.85
331.1	87.5	180.84	1.484	6545.60	4482.40

REMARKS

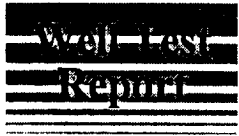
THE INCREMENTAL DATA, PLOTS AND ANALYSIS ARE FROM THE ELECTRONIC RECORDER
 PLEASE REFER TO DERIVATIVE DIAGNOSTICS ANALYSIS FOR FURTHER INFORMATION

PRESSURE TIME



PATTERSON PETROLEUM
MAGUA STATE "20" # 1

○ FIRST SHUT-IN
* SECOND SHUT-IN



RigTesters, Inc.
ABILENE - MIDLAND - GRAHAM
PATTERSON PETROLEUM



Well identification

Well ID	MAGUA STATE"20	Well location	W. BUCKEYE
County/District	LEA	State, Country	NEW MEXICO
Company	PATTERSON PETR	Division	SNYDER

Fluid properties

Prod/Inj fluid	WATER	GOR	
Water cut	100%	Condensate yield	UNKNOWN
API gravity		Gas spec. grav.	0.7
Viscosity	0.3584 cp	Pseudo-critical T	382.97 deg R
Pseudo-critical P	664.37 psia	H2S mole fraction	UNKNOWN
CO2 mole fraction	UNKNOWN	N2 mole fraction	UNKNOWN
Compressibility(t)	13.855 e-6/psi	Formation vol factor	1.0226 RB/STB

Reservoir properties

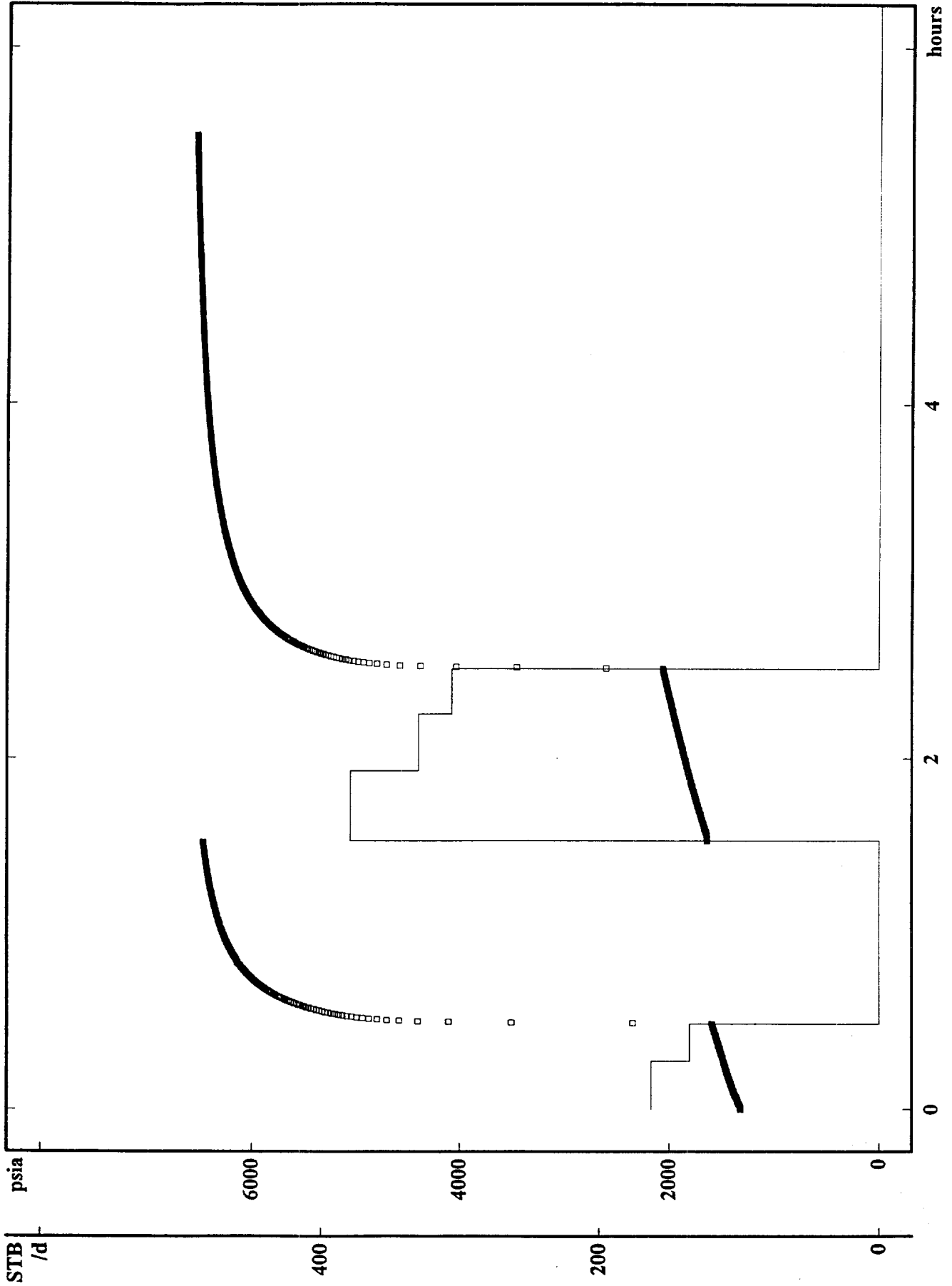
Porosity	0.12 frac	Formation thickness	14 ft
Wellbore radius	0.36458 ft	Prod-observer distance	N/A
Water-Oil Contact	UNKNOWN	Gas-Oil Contact	N/A
Gas-Water Contact	N/A	Rock compressibility	
Reservoir temperature	183 deg F	Pressure for properties	6575 psia

Comments

THE DERIVATIVES INDICATE A RESERVOIR WITH LOW PERMEABILITY AND NO (NEGATIVE) SKIN. BOTH SHUT-INS INDICATE THAT RADIAL FLOW REGIME HAD BEEN ACHIEVED. THE DIPS AND RISES FROM RADIAL FLOW IS INDICATIVE OF A MULTIPLE POROSITY RESERVOIR WITH-IN INTERVAL TESTED. THE FIXED PARAMETERS USED WERE AN EST. 12% POROSITY, 14 FT. OF NET PAY REPORTED AND AN AVERAGE PRODUCTION OF 337 BBLs. OF FLUID (WATER) FOR THE FINAL FLOW PERIOD. THE RATES WERE BASED ON DENSITY OF FLUID RECOVERED VS. FLOWING PRESSURES. THE TOTAL RADIUS OF INVESTIGATION CALCULATED TO APPROX. 72 FT. FROM WELLBORE.

PATTERSON PETROLEUM MAGUA STATE "20" #1

Pressure and flow rate vs time during test sequence

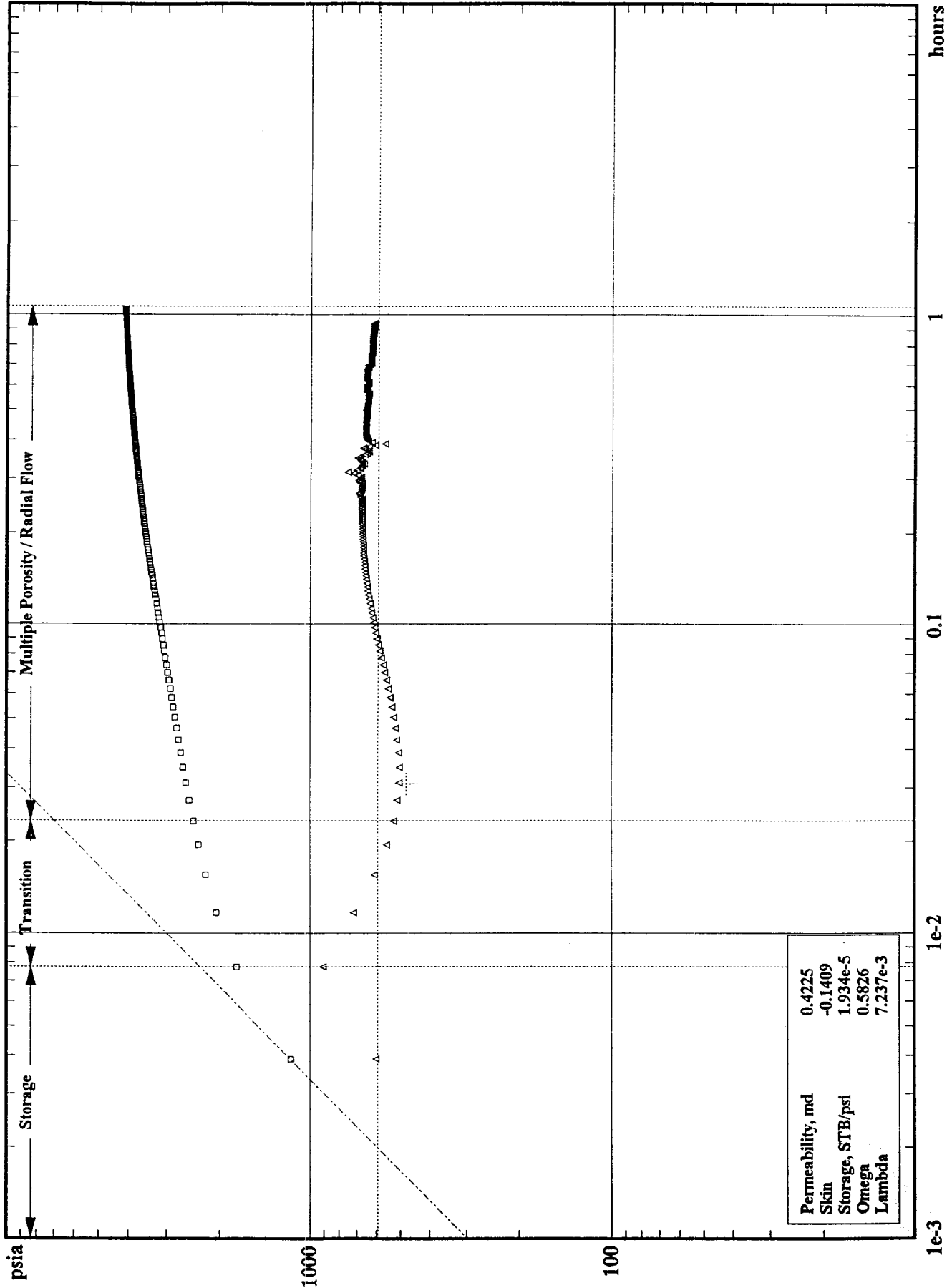


12770 - 12816 FT. ATOKA

PATTERSON PETROLEUM MAGUA STATE "20" #1



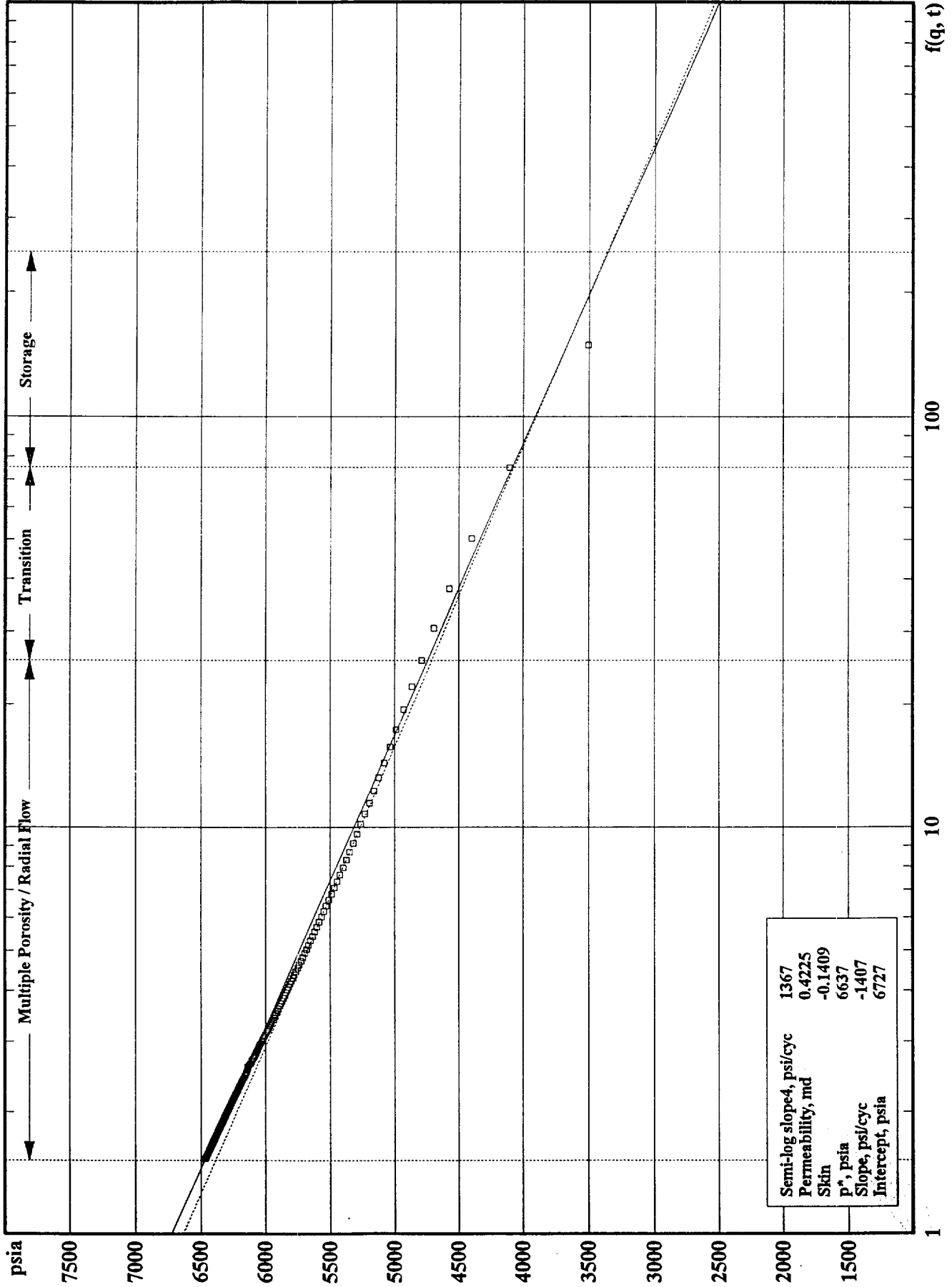
Diagnostic plot (pressure & time)



INITIAL SHUT-IN PERIOD DST#1

PATTERSON PETROLEUM MAGUA STATE "20" #1

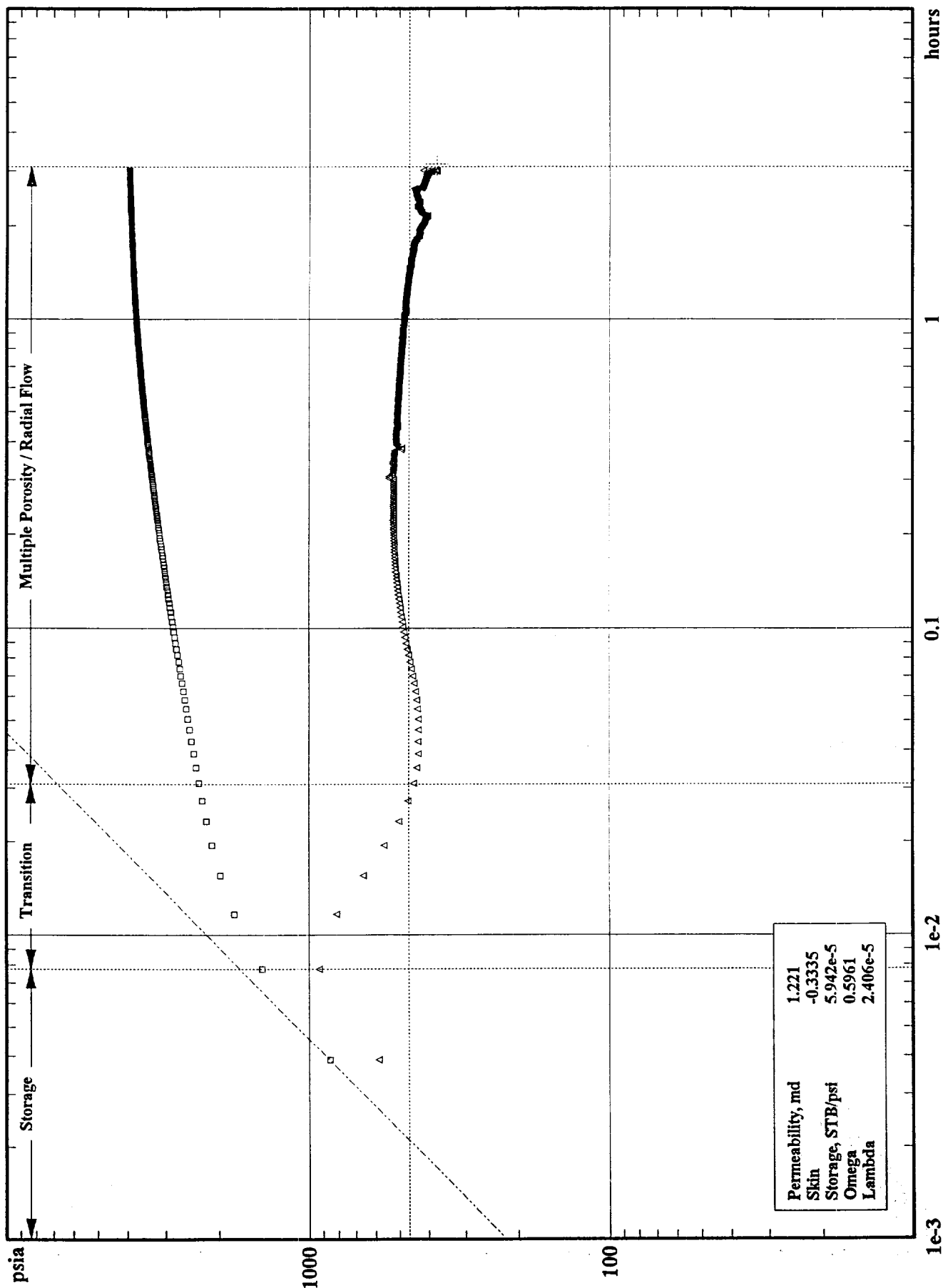
Variable rate Horner plot (pressure & time)



INITIAL SHUT-IN PERIOD DST#1

PATTERSON PETROLEUM MAGUA STATE "20" #1

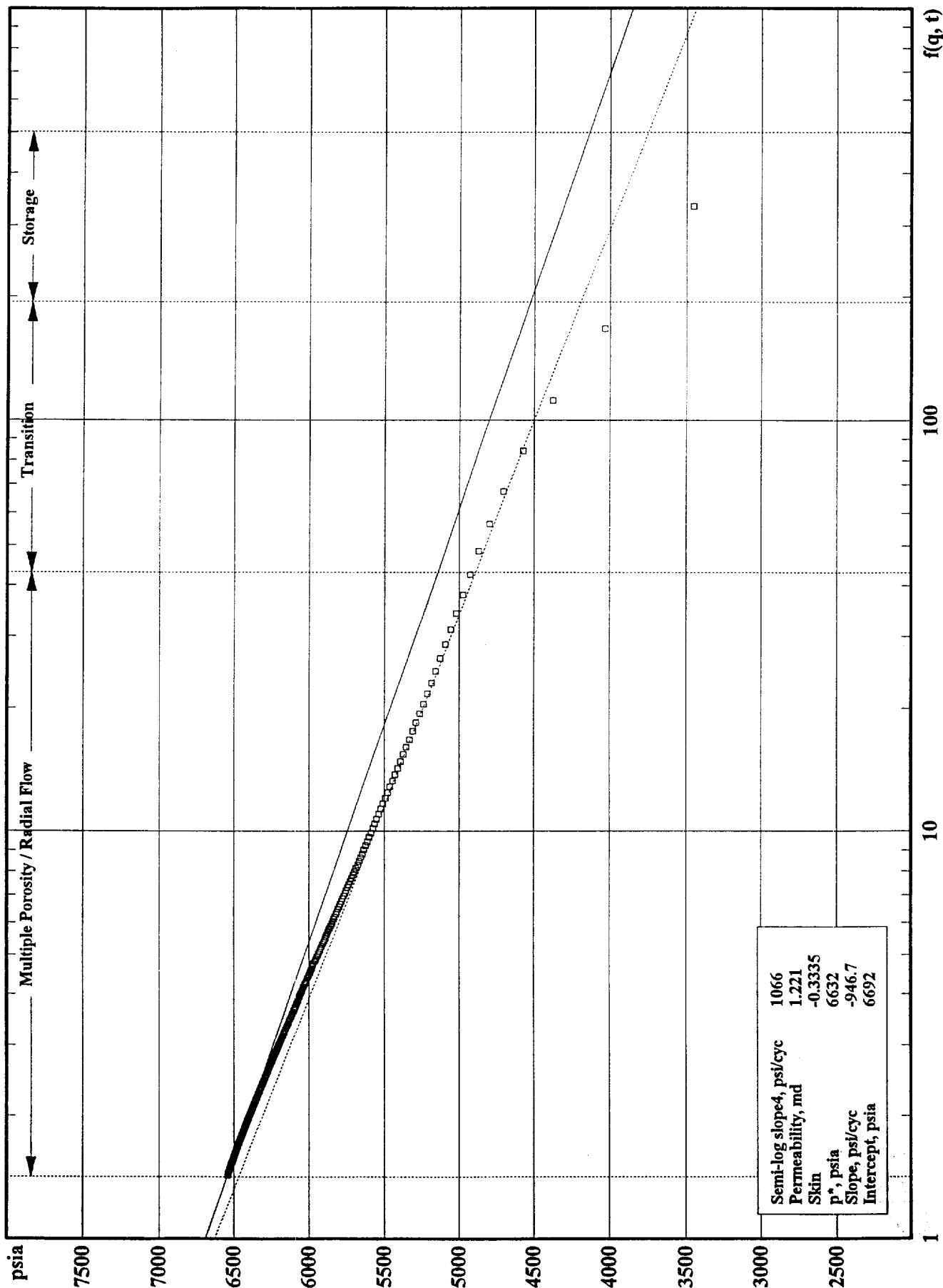
Diagnostic plot (pressure & time)



FINAL SHUT-IN PERIOD DST#1

PATTERSON PETROLEUM MAGUA STATE "20" #1

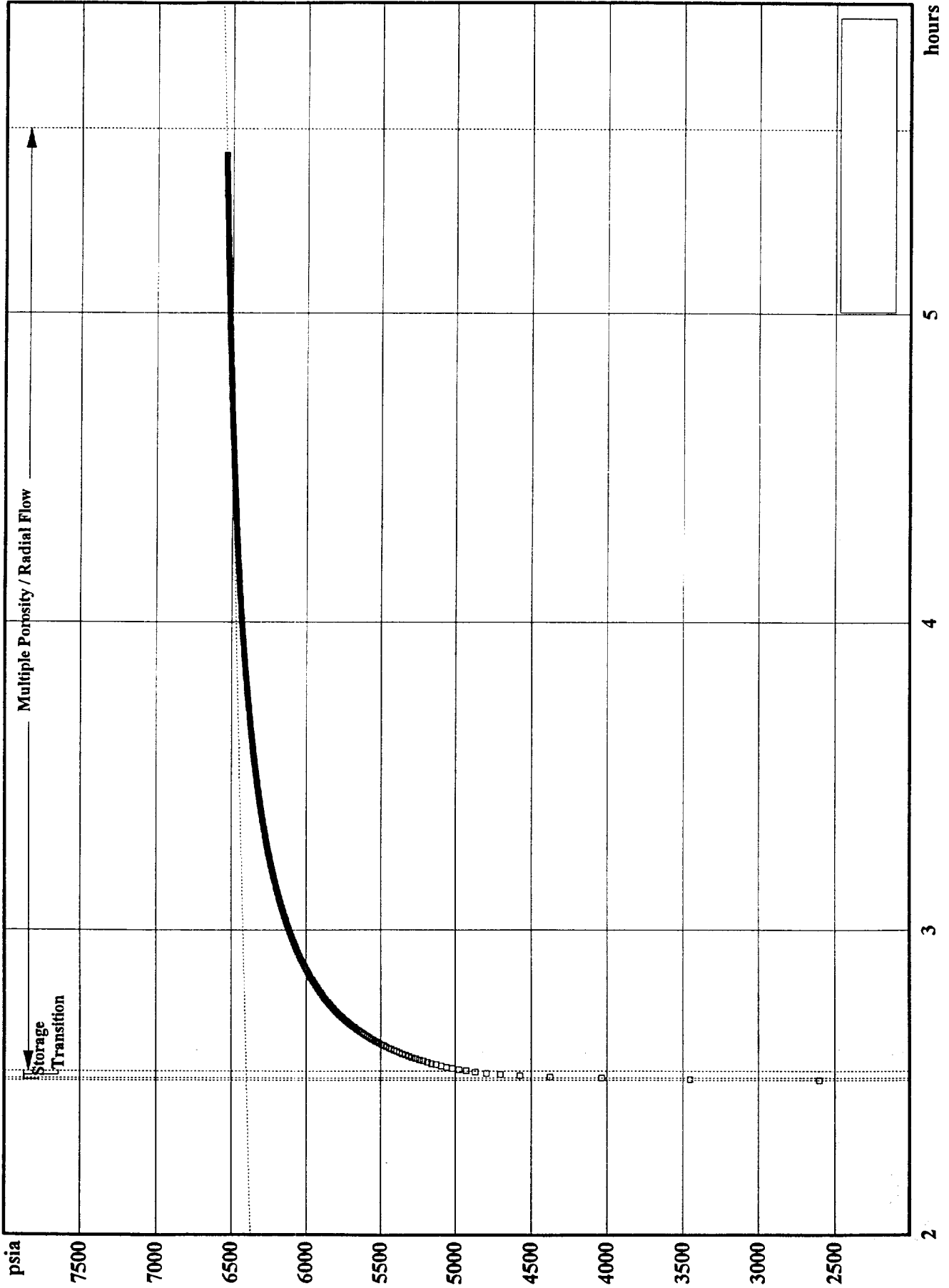
Variable rate Horner plot (pressure & time)



FINAL SHUT-IN PERIOD DST#1

PATTERSON PETROLEUM MAGUA STATE "20" #1

Cartesian plot (pressure & time)



FINAL SHUT-IN PERIOD DST#1

Submit 3 Copies
to Appropriate
District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

WELL API NO.	30-025-34956
5. Indicate Type of Lease	STATE ☒ FEE ☐
6. State Oil & Gas Lease No.	

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	
1. Type of Well: OIL WELL ☐ GAS WELL ☒ OTHER	7. Lease Name or Unit Agreement Name Magua "20" St.
2. Name of Operator Patterson Petroleum LP	8. Well No. 1
3. Address of Operator P.O. Drawer 1416 Snyder, TX 79550	9. Pool name or Wildcat N. Vacuum; Atoka Morrow
4. Well Location Unit Letter L : 1455 Feet From The South Line and 665 Feet From The West Line Section 20 Township 17S Range 34E NMPM Lea County 10. Elevation (Show whether DF, RKB, RT, GR, etc.) 4080' GL	

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data	
NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK ☐	REMEDIAL WORK ☐
TEMPORARILY ABANDON ☐	ALTERING CASING ☐
PULL OR ALTER CASING ☐	COMMENCE DRILLING OPNS. ☒
OTHER: ☐	PLUG AND ABANDONMENT ☐
	CASING TEST AND CEMENT JOB ☐
	OTHER: ☐

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

03/15/00 MIRU Patterson Drilling Rig #74. Spudded well @11:00 p.m.
40' - 448' - Drilled/surveyed. Started running casing.

03/16/00 Ran 10 jts 13-3/8" casing, set @432.45'. Cemented w/440 sx class "C" cement w/2% CaCl. Bumped plug to 500#
448' - 550' - Drilled

03/17/00 550' - 2319' - Drilled/surveyed

03/18/00 2319' - 2925' - Drilled/surveyed. Trip for bit #3.

03/19/00 2925' - 3292' - Drilled/surveyed.

03/20/00 3292' - 3596' - Drilled.

03/21/00 3596' - 3803' - Drilled/surveyed.

03/22/00 3803' - 4047' - Drilled.

03/23/00 4047' - 4272' - Drilled/surveyed.

03/24/00 4272' - 4420' - Drilled/surveyed. Trip for bit #4.

03/25/00 4420' - 4736' - Drilled

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Nolan von Roeder TITLE Petroleum Engineer DATE 04/06/00

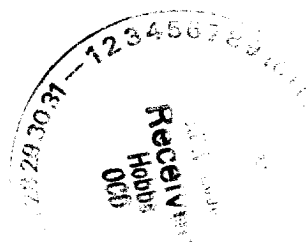
TYPE OR PRINT NAME Nolan von Roeder TELEPHONE NO. 915/573-1938

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

03/26/00 4736' - 4814' Drilled/surveyed. Ran 109 jts 9-5/8" casing, set @4813'
w/16 centralizers.
03/27/00 4814' - 4814' Cemented w/2500 sx 35/64 poz "C" w/6% D20, 5% D44 + 2/10% D46
+1/4#/sk D29 & 250 sx class "C" neat. Circulated 128 sx to pits.
Nipple up & test BOP. Bit #5.
03/28/00 4814' - 5055' Drilled. Trip to change BHA. NU & test BOP.
03/29/00 5055' - 5804' Drilled/surveyed.
03/30/00 5804' - 6530' Drilled/surveyed.
03/31/00 6530' - 6898' Drilled/surveyed. Trip in hole for bit #6.



District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-101
Revised February 10, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address. Patterson Petroleum <i>INC</i> P.O. Drawer 1416 Snyder, TX 79550		² OGRID Number 141928
		³ API Number 30-025-34956
⁴ Property Code 25399	⁵ Property Name 2D Magua St. <i>20</i>	⁶ Well No. 1

⁷ Surface Location

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
L	20	17S	34E		1455	South	665	West	Lea

⁸ Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
⁹ Proposed Pool 1 N. Vacuum. <i>Hoka</i> Morrow					¹⁰ Proposed Pool 2				

¹¹ Work Type Code N	¹² Well Type Code G	¹³ Cable/Rotary Rotary	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 4080'
¹⁶ Multiple No	¹⁷ Proposed Depth 13,600'	¹⁸ Formation Morrow	¹⁹ Contractor Patterson Drlg	²⁰ Spud Date 03/00

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17-1/2"	13-3/8"	48#	400'	400 sx	Surface
12-1/4"	9-5/8"	40#	4800'	2000 sx	Surface
8-3/4"	5-1/2"	17#	13,600'	1250 sx	8000'

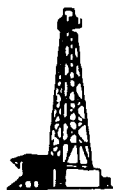
²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Drilling fluid synopsis attached
BOP: Series 900 5000# WP - see figure 2.5 attached
Additional casing & cementing information attached

Permit Expires 1 Year From Approval
Date Unless Drilling Underway

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Nolan von Roeder</i>		OIL CONSERVATION DIVISION	
Printed name: Nolan von Roeder		Approved by: <i>ORIGINAL SIGNED BY CHRIS WILLIAMS</i>	
Title: Petroleum Engineer		Title: DISTRICT SUPERVISOR	
Date: 02/29/00		Approval Date:	Expiration Date:
Phone: 915/573-1938		Conditions of Approval: Attached ☐	

mp



Patterson Petroleum, Inc.

P.O. Drawer 1416
Snyder, Texas 79550

DRILLING FLUID SYNOPSIS

PATTERSON PETROLEUM LP

Magua St. 20 No. 1

Section 20
T-17-S
R-33-E
Lea County, New Mexico

CASING

13-3/8" at 400'
9-5/8" at 4,800'
5-1/2" at 13,600'

DEPTH	MUD WEIGHT	VISCOSITY	FLUID LOSS	DRILL SOLIDS	COMMENTS
0' - 400'	8.6 to 9.5	32 to 45	No control	<5%	Spud mud, paper
400' - 4800'	10.0 to 10.1	28 to 29	No control	<1%	Brine water, paper, caustic
4800' - 12,500'	8.4 to 9.2	28 to 29	No control	<1%	Fresh water caustic, paper (Brine if needed)
12,500' - 13,600'	9.0 to 9.5	36 to 42	10 cc	<5%	Xanthan gum, white starch, pac, caustic

Phone: (915) 573-1938
Fax: (915) 573-1939

PROPOSED CASING & CEMENTING PROGRAM

MAGUA ST. 20 WELL NO. 1

13 3/8", 48 lb/ft, H-40 Surface Casing Set at 400' - in a 17 1/2" Hole

Circulate to surface with 400 sacks of Class "C" + 2% CaCl₂

Slurry Weight:	14.8 ppg
Slurry Yield:	1.32 cu.ft/sk
Water Requirement:	6.3 gal./sk

9 5/8", 40 lb/ft, J-55 & N-80 Intermediate Casing Set at 4800' - in a 12 1/4" Hole

Lead : 1700 sx of 35:65 Poz Class "C" + 5% salt + 6% gel + 1/4 lb/sk celloflake
+ 2/10 % antifoamer

Desired TOC = Surface

Slurry Weight:	12.4 ppg
Slurry Yield:	2.15 cu.ft/sk
Water Requirement:	11.99 gal/sk

Tail : 300 sx of Class "C" Neat

Slurry Weight:	14.8 ppg
Slurry Yield:	1.32 cu.ft/sk
Water Requirement:	6.31 gal/sk

5 1/2" , 17 lb/ft, N-80 & P110 Production Casing Set at 13,600' - in an 8 3/4" Hole

Set stage tool at approximately 10,500'

1 st Stage : Lead - 550 sx of 35:65 Poz Class "H" + 5% salt + 6 % gel + 3/10% ret.
+ 2/10% dispersant + 2/10% antifoamer

Slurry Weight:	13.5 ppg
Slurry Yield:	1.68 cu.ft/sk
Water Requirement:	8.76 gal/sk

1 st Stage : Tail - 250 sx of Class "H" + 5% salt + 2% gel
+ 3/10 % retarder + 2/10% antifoamer

Slurry Weight:	16.4 ppg
Slurry Yield:	1.09 cu.ft/sk
Water Requirement:	5.49 gal/sk

PROPOSED CASING & CEMENTING PROGRAM

MAGUA ST 20 WELL NO. 1

2 nd Stage : Lead - 300 sx of 35:65 Poz Class "H" + 5% salt + 6% gel
+ 3/10 % retarder + 2/10% antifoamer
Desired TOC = 8000'

Slurry Weight:	12.8 ppg
Slurry Yield:	1.95 cu.ft/sk
Water Requirement:	10.49 gal/sk

2 nd Stage : Tail - 150 sx of 50:50 Poz Class "H" + 5% salt + 2% gel
' + 3/10% retarder + 2/10% dispersant & antifoamer

Slurry Weight:	14.6 ppg
Slurry Yield:	1.27 cu.ft/sk
Water Requirement:	5.67 gal/sk

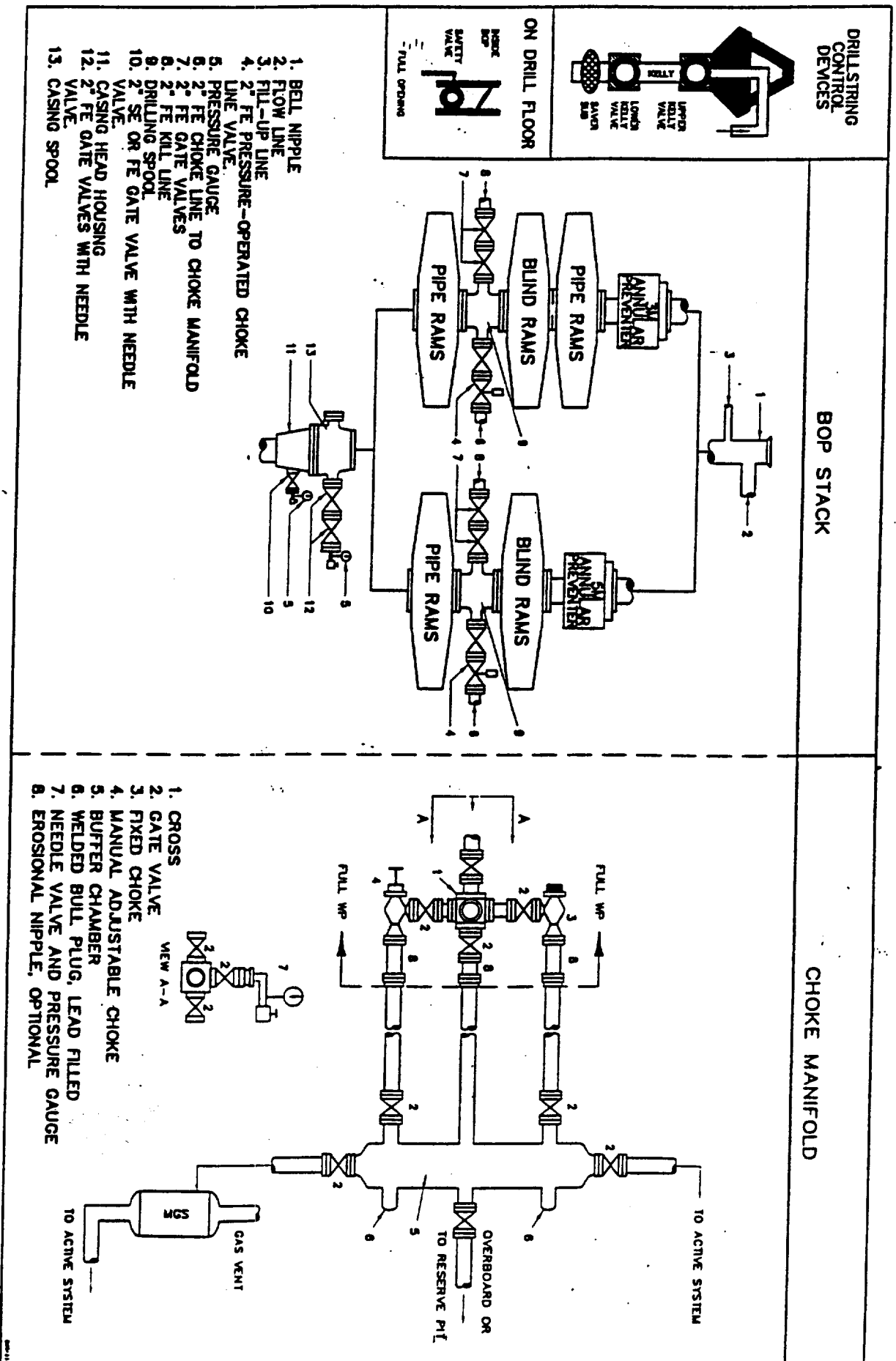


Fig. 2.5. Class 3 BOP and Choke Manifold.



DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-34956	Pool Code 86800	Well Name N. Vacuum
Property Code 25399	Property Name MAGUAV STATE	Well Number 1
GRID No. 141928	Operator Name PATTERSON PETROLEUM, INC.	Elevation 4080

Surface Location

UL or lot No. L	Section 20	Township 17 S	Range 34 E	Lot Idn	Feet from the 1455	North/South line SOUTH	Feet from the 665	East/West line WEST	County LEA
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Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County		
Dedicated Acres 320					Joint or Infill					Consolidation Code	Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

NAD 27 NM EAST ZONE Y=661699.97 X=728760.03									
NAD 83 NM EAST ZONE Y=661764.89 X=769938.60									
665'									
1455'									

OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

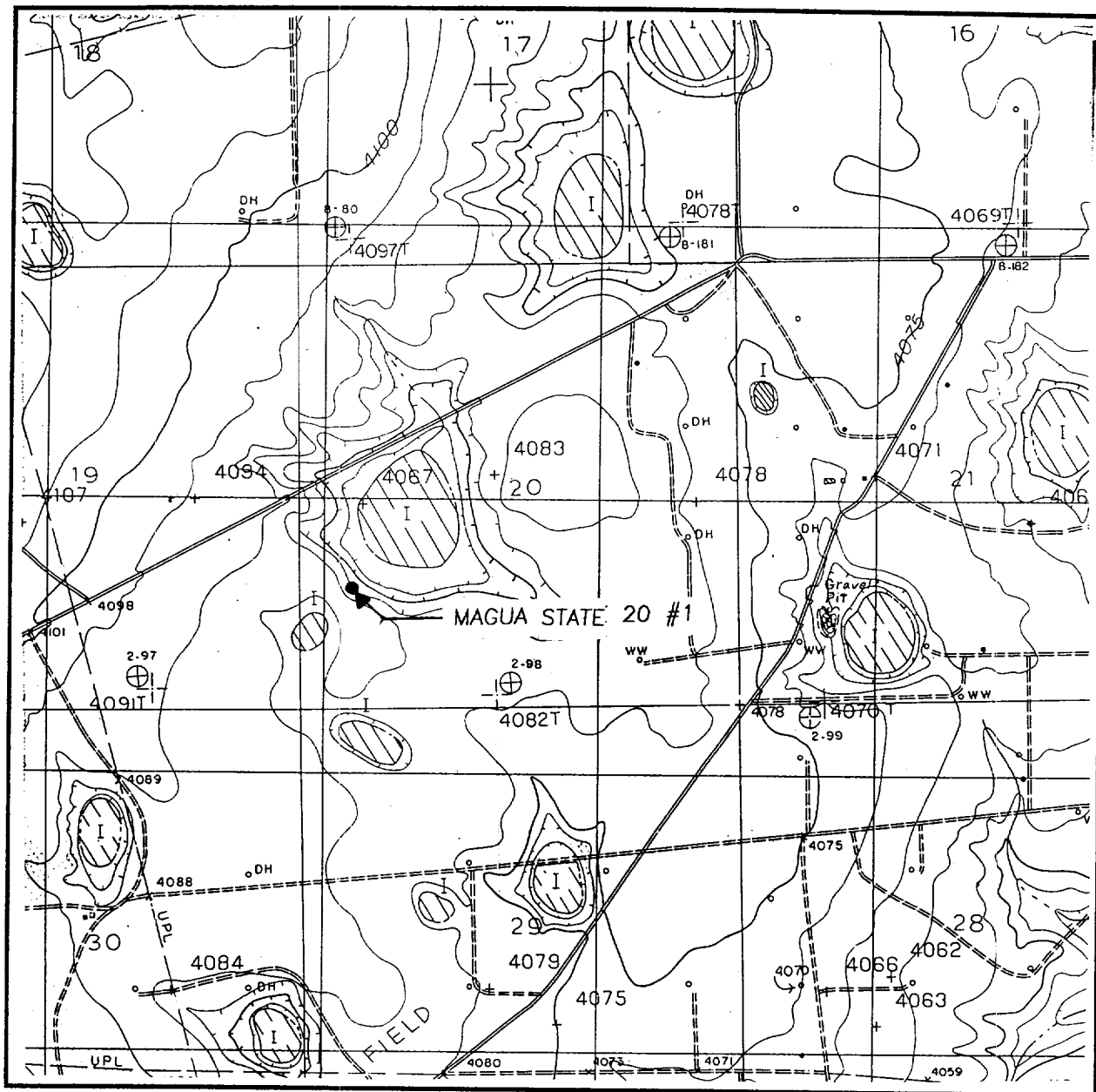
[Signature]
Signature
Joe Fitzgerald
Printed Name
Land Manager
Title
3-2-00
Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief.

FEBRUARY 28, 2000
Date Surveyed
Signature & Seal of Professional Surveyor
[Signature]
00-11-0282
Certificate No. **RONALD J. EIDSON 3239**
GARY EIDSON 12841
MASON McDONALD 12185

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
BUCKEYE - 5'

SEC. 20 TWP. 17-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1455' FSL & 665' FWL

ELEVATION 4080

OPERATOR PATTERSON PETROLEUM, INC.

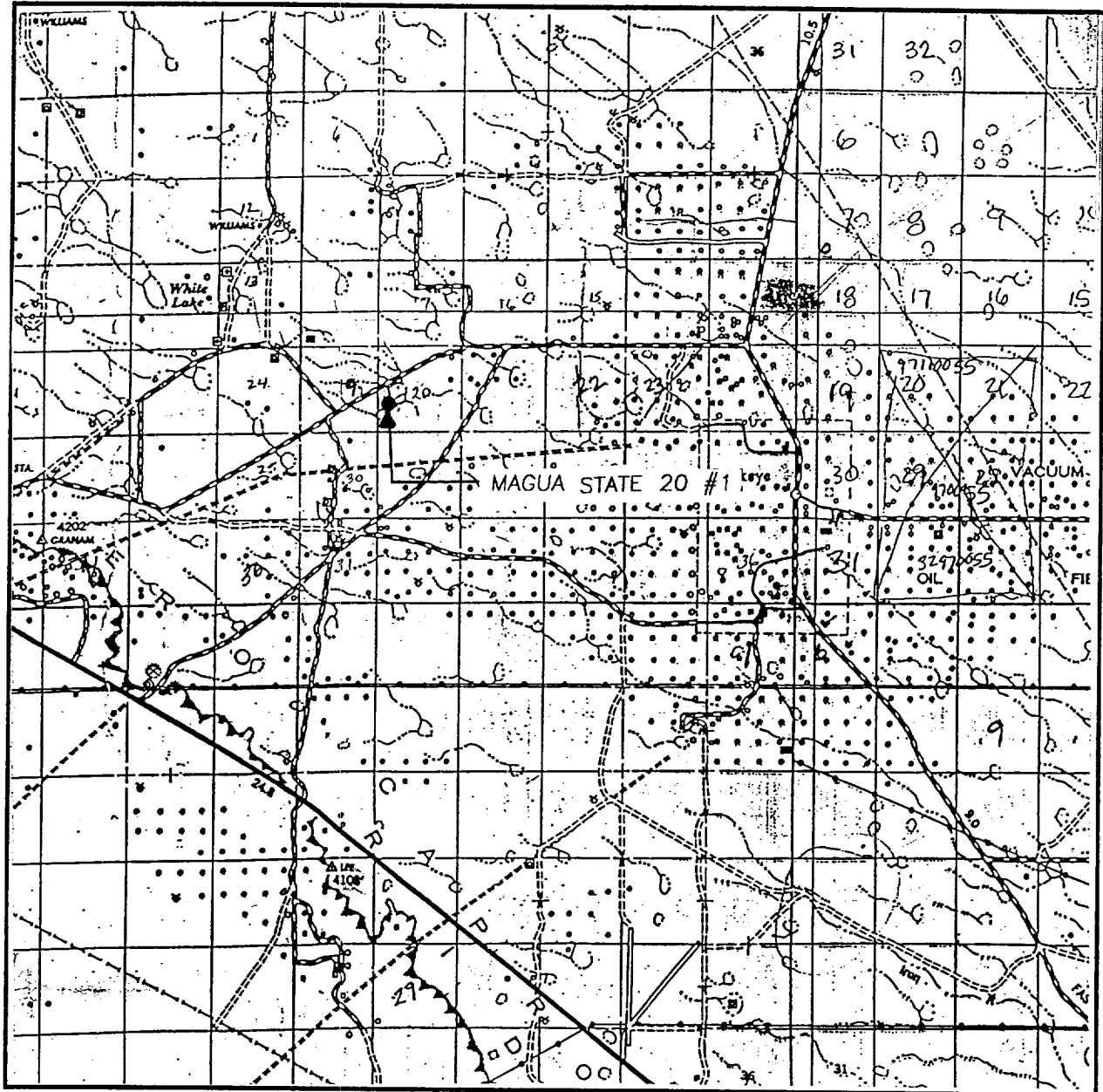
LEASE MAGUA STATE 20

U.S.G.S. TOPOGRAPHIC MAP

BUCKEYE, N.M.

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505 393-3117)

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 20 TWP. 17-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1455' FSL & 665' FWL

ELEVATION 4080

OPERATOR PATTERSON PETROLEUM, INC.

LEASE MAGUA STATE 20

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505 393-3117)

ABOVE DATE DOES NOT
INDICATE WHEN
CONFIDENTIAL LOGS
WILL BE RELEASED

ELF

6/7/00

