

PRO^{WELL} TESTING & WIRELINE

P.O. Box 791
Hobbs, New Mexico 88241
(505) 397-3590

March 6, 2002

Mr. Lonnie Arnold
TMBR/Sharp Drilling
4607 West Industrial
Midland, Texas 79703

Mr. Arnold,

I have analyzed the data from the buildup that was run on the Bluefin 24 #1 in Lea County, New Mexico. The data modeled as a **Homogeneous Reservoir with well bore storage and skin with partial penetration or limited entry and two intersecting faults**. The limited entry effects are more a part of the total skin than was seen on the previous buildup at the end of January.

The first page of this report is the Main Results page, which has the parameters, used for the calculations and the answers that I found. I used a flow rate of **971 mcf/day** of gas. The net interval that I used was 16 feet of a reported 32 feet gross interval with an average porosity of 10%. The flow time that I used was 360 hours of production. The pressure that the model generated was 6086.67 psia, the permeability was 1.06 md., and the formation skin was a +4.21, the skin due to **partial penetration is 13.8 (total skin of 18.01)** and the radius of investigation was **837 feet**. The boundaries were seen at **141 feet and 144 feet** from the wellbore.

The second page is the simulation page. This page matches the model in red against the data in green. The model matches most all the data very well. The matching of the model to the Cartesian plot, the Semi-Log and Log-Log gives us a degree of confidence that we have chosen the correct model. If all three plots match well and the permeability, pressure and skin are reasonable numbers, then we know that the model is a believable one.

COMMISSION
OIL CONSERVATION [REDACTED]
CASE NUMBER [REDACTED]
Ocean EXHIBIT 12

The third page is the Semi-Log plot. The pressure is in green and the model is the red line. The model matches fairly well, except for where the data breaks over and this could be phase segregation or liquid falling out and dropping back. I drew a straight line on this plot for comparison with the Log-Log analysis. The straight line gives a **pressure of 6020 psia**, a **permeability of 0.392 md**, and a **skin of +8.77**. These numbers are some what close to the Log-Log numbers and are a good comparison. This plot does not tell us the amount of skin that is due to partial penetration though. In this case though, since the pseudo skin is very small, the numbers between the two match very well.

The last page is the Log-Log plot with derivative. This is the actual model page that I use to match the data. The delta pressure is in green, the derivative data is in red, the data model is in a red solid line and the derivative model is the solid black line. The dotted horizontal line is the radial flow line that the model generates. This model matches the data fairly well, but I could not get a perfect match. The plot indicates that the data is in radial flow and the derivative data at the end going slowly back up is an indication of the boundaries.

I have included nodal plots for skin and fracture half-length. The **skin cross plot** indicates that if the skin were reduced to zero, then the well should make **5250 mcf/day after 30 days**, **5000 mcf/day after 60 days** and **4500 mcf/day after 90 days**. This would only be possible if the guns were pulled and the other 16 feet of the 32 feet were perforated first. If you were able to remove the formation skin and get the formation skin to a -3, then the well would make about 2000 mcf/day.

The **frac plot** indicates that with a **200 ft. frac half-length**, the well should make **11500 mcf/day after 30 days**, **10600 mcf/day after 60 days** and **10200 mcf/day after 90 days**.

We appreciate this work and look forward to working more with you in the near future. If you have any questions, please give me a call at 915-697-2932 or at our office in Hobbs, New Mexico at (505) 397-3590. Thank you.

Sincerely,



Robert E. Shafer Jr.
Pro Well Testing and Wireline

Disclaimer:

We do not accept any responsibility for any actions taken as a result of this interpretation. This is a best estimate of reservoir parameters and due to the short flow time of this well, conditions could change.

Main Results

Analysis 1

Company TMBR/Sharp Drilling
Well Blue Fin 24 Fed. #1

Field
Test Name / #

Test date / time
Formation interval
Perforated interval
Gauge type / #
Gauge depth

Water
Rsw 21.2319 cfbbl
Bw 1.01584 B/STB
Cw 3.3346E-6 psi-1
Muw 0.345088 cp
Rhow 0.991976 g/cc

TEST TYPE Standard

Porosity Phi (%) 10
Well Radius rw 0.33 ft
Pay Zone h 32 ft

Connate Water (%) 30
Water Salt (ppm) 10000
Rock compr. 3E-6 psi-1
Reservoir T 189 °F
Reservoir P 5000 psia

FLUID TYPE Gas

Gas
Gas Gravity 0.7
Pseudo-Critical P 663.573 psia
Pseudo-Critical T 377.584 °R
Sour gas composition
Hydrogen sulphide 0
Carbon dioxide 0
Nitrogen 0

Water
Salinity, ppm 10000
WGR 1 bbl/MMcf

Reservoir T 189 °F
Reservoir P 5000 psia

Properties @ Reservoir T&P

Gas
Z 0.988548
Mug 0.0274249 cp
Bg 0.00362629 cI/scf
Cg 1.23452E-4 psi-1
Rhog 0.236426 g/cc

Total Compr. ct 9.02845E-5 psi-1

Selected Model
Model Option Standard Model
Well Limited Entry
WBS Type Changing
Reservoir Homogeneous
Boundary Intersecting Faults

Results

TMatch 20.2 [hr]**-1
PMatch 3.8E-8 [psi2/cp]**-1

C 0.0181 STB/psi

Ci/Cf 0.467

Alpha 573

skin 4.21

Delta P Skin 302.283 psi

Pseudo Skin 13.8

Delta P P Skin 988.008 psi

Hw 0.322783 ft

Zw 16 ft

h 32 ft

Pi 6086.67 psia

k.h 34.1 md.ft

k 1.06 md

kz/kr 7.53

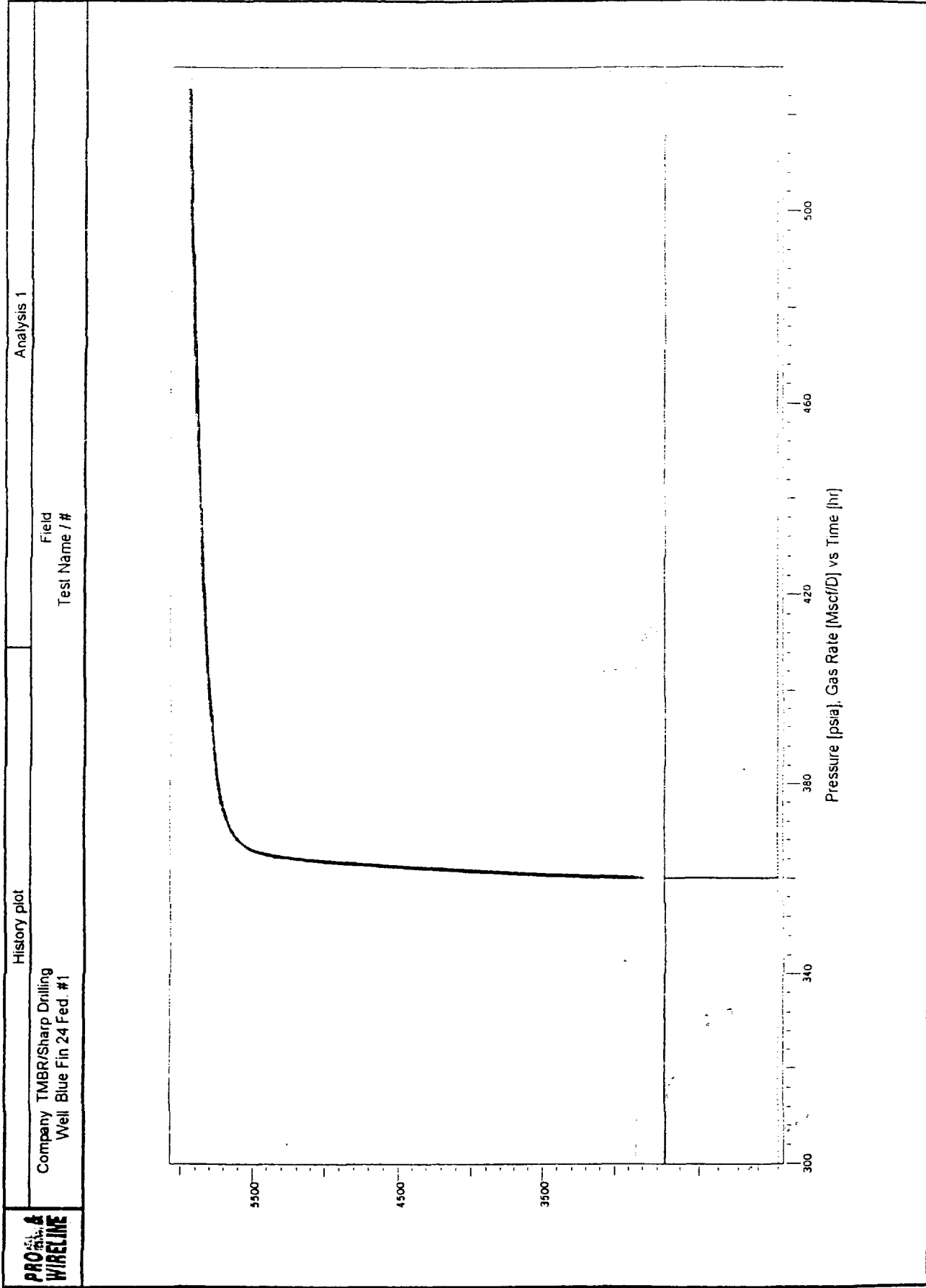
L1 - No Flow 144 ft

L2 - No Flow 141 ft

N 2

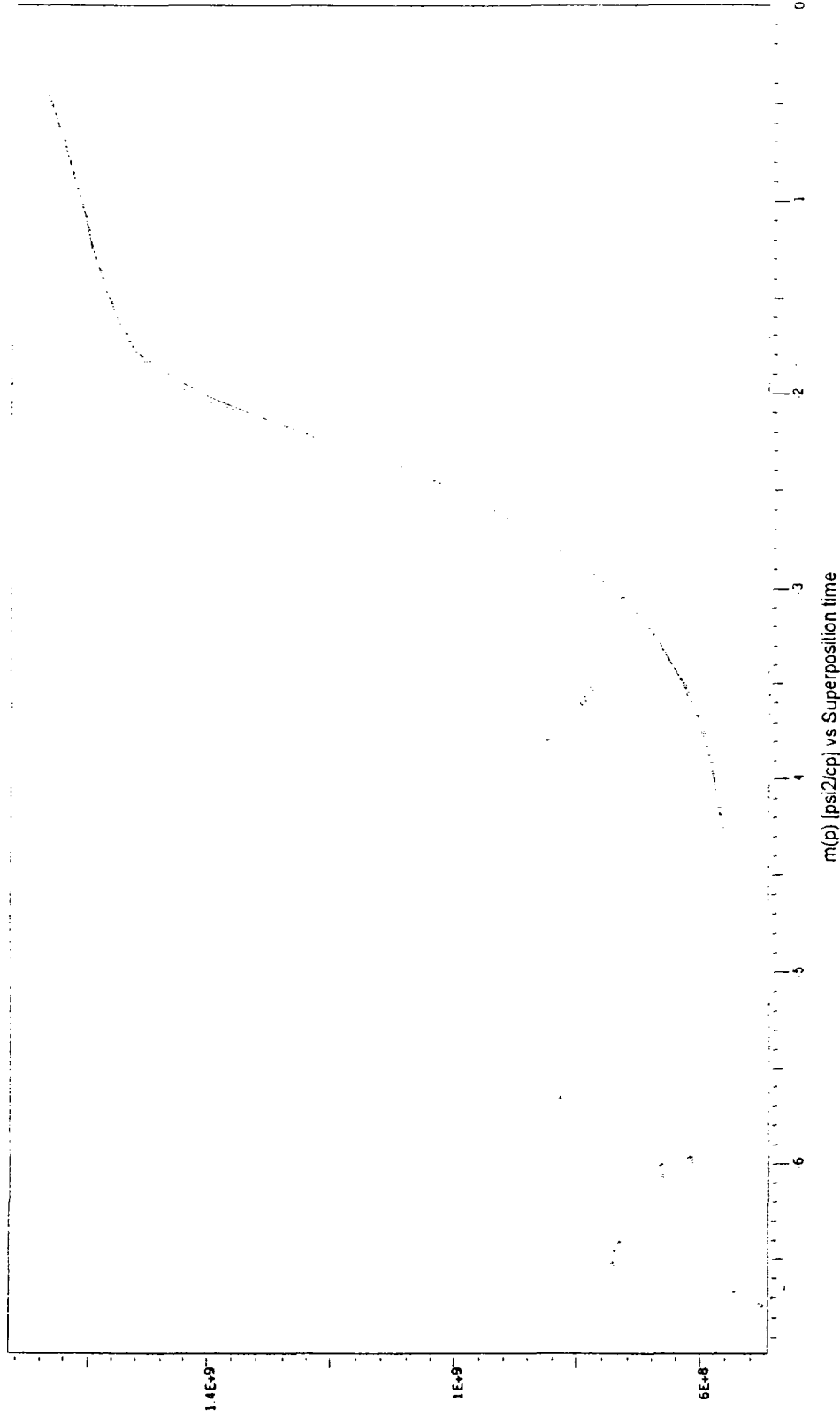
Rinv 837 ft

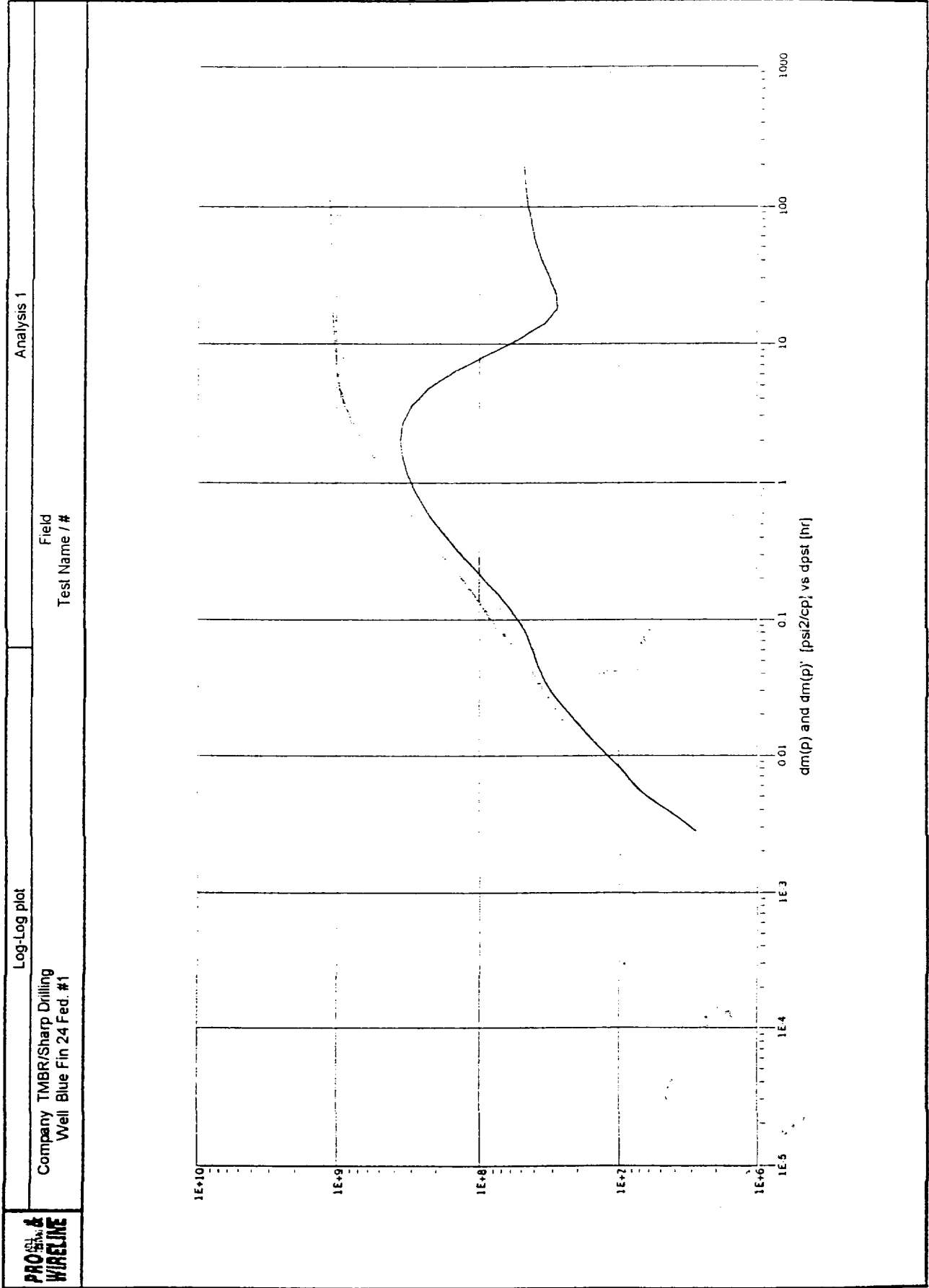
Test. Vol. 2.70743E+5 Barrels



Company TMBR/Sharp Drilling
Well Blue Fin 24 Fed. #1

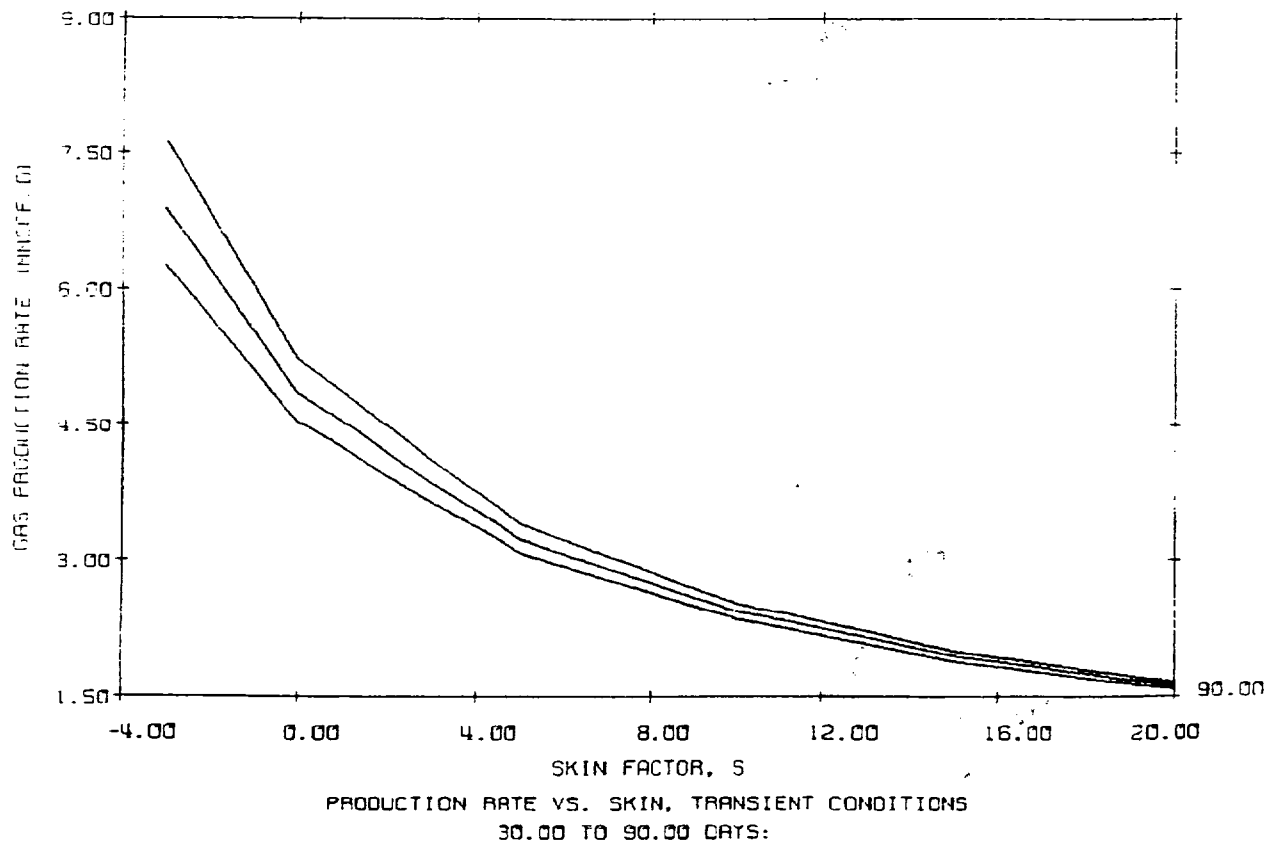
Field
Test Name / #





WELL TEST INTERPRETATION REPORT		WELL NAME = "MSOOR 2"
CLIENT : TMSF/Sharp Drilling		DATE: 11-11-88
REGION :	SENSITIVITY ANALYSIS RATE VS. TIME	FIELD:
DISTRICT:		ZONE :
EPSE :		WELL : 1000 F1-24 F1
ENGINEER:		LOCATION:

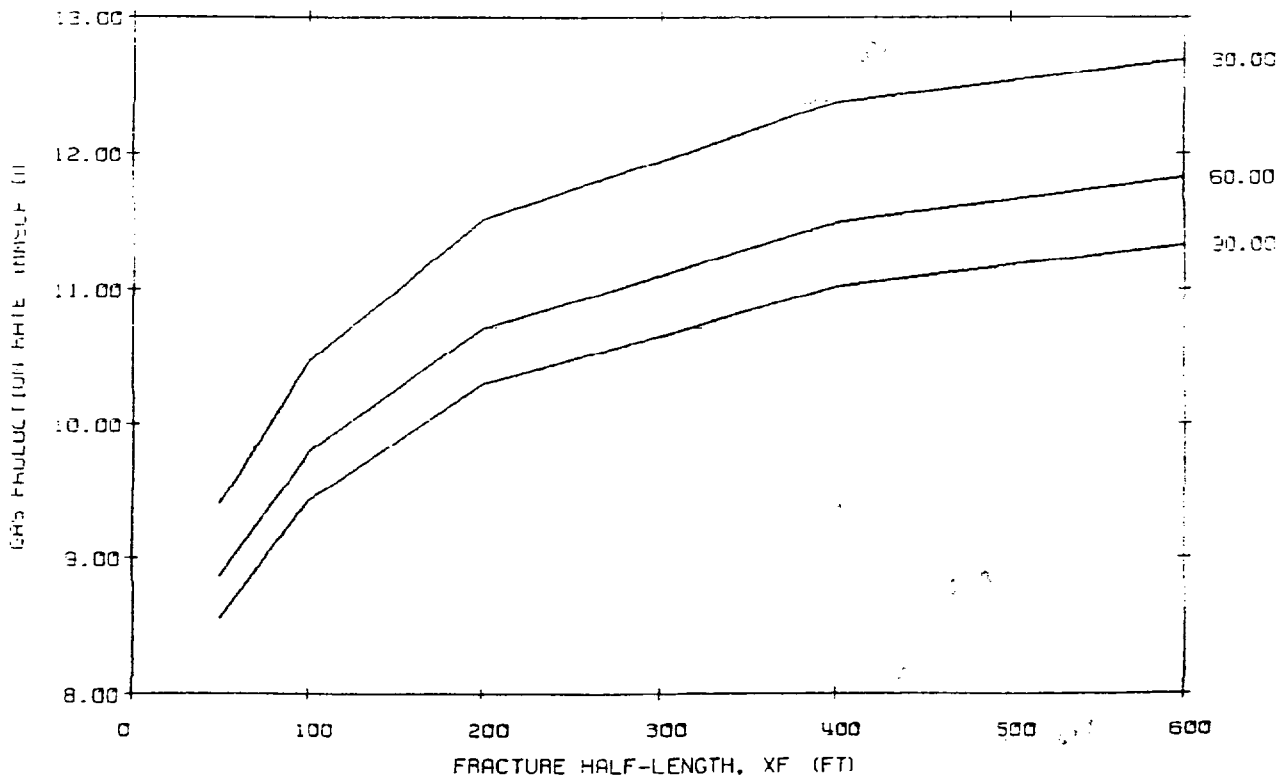
RESERVOIR PRESSURE: 6035 PSI LIQUID/GAS RATIO: 120 STB/MMSCF
 PERMEABILITY: 1.25 MD TUBING SIZE: 2.44 IN (10)
 NET THICKNESS: 32 FT WELLHEAD PRESSURE: 450 PSI



WELL TEST INTERPRETATION REPORT ::blue+inc		PAGE: 51.
CLIENT : IMBRI/Sharp Drilling		6-MAR--
REGION :	SENSITIVITY ANALYSIS RATE Vs. XF (VS. TIME)	FIELD:
DISTRICT:		ZONE :
BASE :		WELL :Blue Fin 24 Pa
ENGINEER:		LOCATION:

RESERVOIR PRESSURE: 6036 PSI LIQUID/GAS RATIO: 120 STB/MMSCF
 PERMEABILITY: 1.08 MD TUBING SIZE: 2.441 IN ID
 NET THICKNESS: 32 FT WELLHEAD PRESSURE: 450 PSI

FRACTURE CONDUCTIVITY, KFAW: 500 MD.FT



PRODUCTION RATE VS. FRAC. HALF-LENGTH, TRANSIENT CONDITIONS
 30.00 TO 90.00 DAYS:

PRESSURE SURVEY REPORT

**TMBR/SHARP DRILLING
BLUE FIN 24 FED. #1
165 HOUR SURFACE BUILD UP
2/25/02 TO 3/4/02
STATIC GRADIENT RAN AFTER BU**

**PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO**

JOB INFORMATION SHEET

Company Information	
Company:	TMBR/SHARP DRILLING
Address:	
Well Information	
Well Name:	BLUE FIN 24 FED. #1
Location:	
Field - Pool:	
Status:	SHUT IN
Test Information	
Type Of Test:	165 HOUR BUILDUP
Gauge Depth:	SURFACE
Prod. Int. CF:	through
Prod. Through:	
Elevation:	
On Bottom/Off Bottom:	
Tubing Pressure:	3593
Casing Pressure:	
Shut In Time:	
Status:	SHUT IN
Temp @ Run Depth:	
Surface Temperature:	
Gauge Information	
	Top Recorder
	Bottom Recorder
Serial Number:	
Calibration Date	
Pressure Range	
Comments	

Company: TMBR/SHARP DRILLING

Well Name: BLUE FIN 24 FED. #1

Location:

Field:

Test Type: HOUR BUILDUP

Gauge Depth: SURFACE

Serial Number:

	Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	Pressure PSIA	Temperature F	Differential PSIA
1	02/25/02	09:10:21	0.001666	447.54	58.5	0.00
2	02/25/02	09:11:21	0.018333	504.40	58.2	56.86
3	02/25/02	09:12:21	0.035000	527.76	58.1	23.36
4	02/25/02	09:13:21	0.051666	547.90	58.4	20.14
5	02/25/02	09:14:21	0.068333	567.49	58.7	19.59
6	02/25/02	09:15:21	0.085000	586.91	58.9	19.42
7	02/25/02	09:16:21	0.101666	605.95	59.1	19.03
8	02/25/02	09:17:21	0.118333	624.80	59.1	18.85
9	02/25/02	09:18:21	0.135000	643.36	59.1	18.56
10	02/25/02	09:19:21	0.151666	661.62	59.0	18.25
11	02/25/02	09:20:21	0.168333	679.76	58.8	18.15
12	02/25/02	09:21:21	0.185000	697.72	58.7	17.96
13	02/25/02	09:22:21	0.201666	715.36	58.5	17.63
14	02/25/02	09:23:21	0.218333	732.66	58.5	17.31
15	02/25/02	09:24:21	0.235000	749.49	58.4	16.83
16	02/25/02	09:25:21	0.251666	766.12	58.5	16.63
17	02/25/02	09:26:21	0.268333	782.66	58.5	16.54
18	02/25/02	09:27:21	0.285000	798.96	58.5	16.30
19	02/25/02	09:28:21	0.301666	815.00	58.6	16.05
20	02/25/02	09:29:21	0.318333	830.70	58.6	15.70
21	02/25/02	09:30:21	0.335000	846.19	58.6	15.48
22	02/25/02	09:31:21	0.351666	861.62	58.7	15.64
23	02/25/02	09:32:21	0.368333	877.04	58.7	15.21
24	02/25/02	09:33:21	0.385000	891.92	58.8	14.89
25	02/25/02	09:34:21	0.401666	906.82	58.8	14.90
26	02/25/02	09:35:21	0.418333	921.44	58.8	14.61
27	02/25/02	09:36:21	0.435000	935.93	58.9	14.49
28	02/25/02	09:37:21	0.451666	950.27	59.0	14.34
29	02/25/02	09:38:21	0.468333	964.27	59.0	14.01
30	02/25/02	09:39:21	0.485000	978.21	59.1	13.93
31	02/25/02	09:40:21	0.501666	991.89	59.2	13.69
32	02/25/02	09:45:21	0.585000	1059.28	59.6	67.37
33	02/25/02	09:50:21	0.668333	1124.22	60.2	64.95
34	02/25/02	09:55:21	0.751666	1186.20	60.5	61.99
35	02/25/02	10:00:21	0.835000	1245.92	61.0	59.71
36	02/25/02	10:05:21	0.918333	1303.43	61.2	57.51
37	02/25/02	10:10:21	1.001666	1359.13	61.5	55.70
38	02/25/02	10:15:21	1.085000	1413.28	61.5	54.15
39	02/25/02	10:20:21	1.168333	1465.95	62.2	52.67
40	02/25/02	10:25:21	1.251666	1517.49	62.8	51.53
41	02/25/02	10:30:21	1.335000	1568.02	63.3	50.54
42	02/25/02	10:35:21	1.418333	1617.54	63.8	49.51
43	02/25/02	10:40:21	1.501666	1666.17	64.6	48.63
44	02/25/02	10:45:21	1.585000	1713.88	65.2	47.72
45	02/25/02	10:50:21	1.668333	1761.04	65.8	47.16

PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO

Company: TMBR/SHARP DRILLING

Well Name: BLUE FIN 24 FED. #1

Location:

Field:

Test Type: HOUR BUILDUP

Gauge Depth: SURFACE

Serial Number:

	Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	Pressure PSIA	Temperature F	Differential PSIA
46	02/25/02	10:55:21	1.751666	1807.75	66.0	46.71
47	02/25/02	11:00:21	1.835000	1853.73	66.4	45.99
48	02/25/02	11:05:21	1.918333	1899.36	67.1	45.63
49	02/25/02	11:10:21	2.001666	1944.54	67.7	45.18
50	02/25/02	11:15:21	2.085000	1989.14	68.4	44.60
51	02/25/02	11:20:21	2.168333	2033.47	69.0	44.32
52	02/25/02	11:25:21	2.251666	2077.44	69.6	43.98
53	02/25/02	11:30:21	2.335000	2121.23	70.0	43.78
54	02/25/02	11:35:21	2.418333	2164.56	70.2	43.33
55	02/25/02	11:40:21	2.501666	2207.39	70.5	42.83
56	02/25/02	11:45:21	2.585000	2250.01	71.0	42.63
57	02/25/02	11:50:21	2.668333	2292.32	71.3	42.30
58	02/25/02	11:55:21	2.751666	2334.03	71.5	41.71
59	02/25/02	12:00:21	2.835000	2375.22	71.9	41.19
60	02/25/02	12:05:21	2.918333	2415.83	72.0	40.61
61	02/25/02	12:10:21	3.001666	2455.77	72.1	39.95
62	02/25/02	12:15:21	3.085000	2494.98	72.2	39.21
63	02/25/02	12:20:21	3.168333	2533.33	72.2	38.35
64	02/25/02	12:25:21	3.251666	2570.43	72.6	37.11
65	02/25/02	12:30:21	3.335000	2606.88	73.4	36.45
66	02/25/02	12:35:21	3.418333	2642.05	73.4	35.17
67	02/25/02	12:40:21	3.501666	2676.04	73.5	33.99
68	02/25/02	12:45:21	3.585000	2708.67	73.4	32.62
69	02/25/02	12:50:21	3.668333	2739.88	73.8	31.21
70	02/25/02	12:55:21	3.751666	2769.80	74.3	29.93
71	02/25/02	13:00:21	3.835000	2798.20	74.6	26.39
72	02/25/02	13:05:21	3.918333	2825.04	74.6	26.85
73	02/25/02	13:10:21	4.001666	2850.52	74.7	25.48
74	02/25/02	13:15:21	4.085000	2874.60	74.8	24.08
75	02/25/02	13:20:21	4.168333	2897.39	75.2	22.79
76	02/25/02	13:25:21	4.251666	2919.06	75.6	21.67
77	02/25/02	13:30:21	4.335000	2939.46	76.4	20.40
78	02/25/02	13:35:21	4.418333	2958.72	76.6	19.27
79	02/25/02	13:40:21	4.501666	2976.78	76.6	18.05
80	02/25/02	13:45:21	4.585000	2993.70	76.8	16.93
81	02/25/02	13:50:21	4.668333	3009.56	77.0	15.85
82	02/25/02	13:55:21	4.751666	3024.51	77.0	14.96
83	02/25/02	14:00:21	4.835000	3038.74	77.3	14.23
84	02/25/02	14:05:21	4.918333	3051.67	77.6	12.93
85	02/25/02	14:10:21	5.001666	3063.48	77.8	11.81
86	02/25/02	14:15:21	5.085000	3074.49	78.0	11.02
87	02/25/02	14:20:21	5.168333	3084.78	78.4	10.28
88	02/25/02	14:25:21	5.251666	3094.34	78.2	9.57
89	02/25/02	14:30:21	5.335000	3103.28	78.7	8.94
90	02/25/02	14:35:21	5.418333	3111.60	78.7	8.32

PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO

Company: TMBR/SHARP DRILLING

Well Name: BLUE FIN 24 FED. #1

Location:

Field:

Test Type: HOUR BUILDUP

Gauge Depth: SURFACE

Serial Number:

	Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	Pressure PSIA	Temperature F	Differential PSIA
91	02/25/02	14:40:21	5.501666	3119.43	78.0	7.83
92	02/25/02	14:45:21	5.585000	3126.78	77.9	7.35
93	02/25/02	14:50:21	5.668333	3133.62	78.1	6.84
94	02/25/02	14:55:21	5.751666	3140.07	77.8	6.45
95	02/25/02	15:00:21	5.835000	3146.45	77.6	6.38
96	02/25/02	15:05:21	5.918333	3152.68	77.5	6.24
97	02/25/02	15:10:21	6.001666	3158.63	77.5	5.94
98	02/25/02	15:25:21	6.251666	3174.51	77.3	15.88
99	02/25/02	15:40:21	6.501666	3188.25	77.4	13.75
100	02/25/02	15:55:21	6.751666	3200.39	77.5	12.13
101	02/25/02	16:10:21	7.001666	3211.32	76.6	10.93
102	02/25/02	16:25:21	7.251666	3219.92	65.1	8.60
103	02/25/02	16:40:21	7.501666	3227.83	58.8	7.90
104	02/25/02	16:55:21	7.751666	3235.99	54.6	8.16
105	02/25/02	17:10:21	8.001666	3243.31	50.0	7.32
106	02/25/02	17:25:21	8.251666	3250.19	44.8	6.88
107	02/25/02	17:40:21	8.501666	3256.92	40.4	6.73
108	02/25/02	17:55:21	8.751666	3263.56	37.2	6.64
109	02/25/02	18:10:21	9.001666	3269.58	34.3	6.02
110	02/25/02	18:25:21	9.251666	3274.95	32.3	5.37
111	02/25/02	18:40:21	9.501666	3280.19	30.6	5.25
112	02/25/02	18:55:21	9.751666	3285.20	28.8	5.01
113	02/25/02	19:10:21	10.001666	3289.79	27.2	4.58
114	02/25/02	19:25:21	10.251666	3293.94	26.1	4.15
115	02/25/02	19:40:21	10.501666	3298.06	24.7	4.13
116	02/25/02	19:55:21	10.751666	3301.80	24.1	3.73
117	02/25/02	20:10:21	11.001666	3305.47	23.6	3.67
118	02/25/02	20:25:21	11.251666	3308.90	23.1	3.43
119	02/25/02	20:40:21	11.501666	3312.32	22.8	3.43
120	02/25/02	20:55:21	11.751666	3315.60	22.5	3.27
121	02/25/02	21:10:21	12.001666	3318.73	22.1	3.14
122	02/25/02	21:40:21	12.501666	3324.46	21.3	5.73
123	02/25/02	22:10:21	13.001666	3330.03	20.7	5.57
124	02/25/02	22:40:21	13.501666	3335.31	20.1	5.28
125	02/25/02	23:10:21	14.001666	3340.32	19.3	5.00
126	02/25/02	23:40:21	14.501666	3345.19	18.1	4.87
127	02/26/02	00:10:21	15.001666	3349.70	17.4	4.51
128	02/26/02	00:40:21	15.501666	3353.91	16.5	4.21
129	02/26/02	01:10:21	16.001666	3357.85	15.9	4.03
130	02/26/02	01:40:21	16.501666	3361.75	15.3	3.80
131	02/26/02	02:10:21	17.001666	3365.24	14.8	3.49
132	02/26/02	02:40:21	17.501666	3368.66	14.4	3.42
133	02/26/02	03:10:21	18.001666	3372.31	13.8	3.65
134	02/26/02	04:10:21	19.001666	3378.90	13.0	6.59
135	02/26/02	05:10:21	20.001666	3385.05	12.1	6.15

PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO

Company: TMBR/SHARP DRILLING

Well Name: BLUE FIN 24 FED. #1

Location:

Field:

Test Type: HOUR BUILDUP

Gauge Depth: SURFACE

Serial Number:

	Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	Pressure PSIA	Temperature F	Differential PSIA
136	02/26/02	06:10:21	21.001666	3390.40	11.5	5.36
137	02/26/02	07:10:21	22.001666	3394.03	15.1	3.63
138	02/26/02	08:10:21	23.001666	3397.60	19.7	3.56
139	02/26/02	09:10:21	24.001666	3401.16	23.2	3.57
140	02/26/02	10:10:21	25.001666	3404.95	27.2	3.78
141	02/26/02	11:10:21	26.001666	3408.41	30.8	3.46
142	02/26/02	12:10:21	27.001666	3411.36	35.8	2.95
143	02/26/02	13:10:21	28.001666	3414.96	41.5	3.60
144	02/26/02	14:10:21	29.001666	3418.40	46.2	3.43
145	02/26/02	15:10:21	30.001666	3420.98	46.3	2.59
146	02/26/02	16:10:21	31.001666	3424.17	49.5	3.19
147	02/26/02	17:10:21	32.001666	3427.15	46.5	2.99
148	02/26/02	18:10:21	33.001666	3430.24	31.2	3.09
149	02/26/02	19:10:21	34.001666	3433.93	23.1	3.69
150	02/26/02	20:10:21	35.001666	3437.41	19.5	3.48
151	02/26/02	21:10:21	36.001666	3440.21	18.7	2.79
152	02/26/02	22:10:21	37.001666	3443.02	17.6	2.81
153	02/26/02	23:10:21	38.001666	3445.91	16.7	2.89
154	02/27/02	00:10:21	39.001666	3448.43	16.9	2.53
155	02/27/02	01:10:21	40.001666	3450.49	18.0	2.05
156	02/27/02	02:10:21	41.001666	3452.82	17.6	2.33
157	02/27/02	03:10:21	42.001666	3454.92	17.9	2.11
158	02/27/02	04:10:21	43.001666	3456.63	20.2	1.70
159	02/27/02	05:10:21	44.001666	3458.78	20.5	2.16
160	02/27/02	06:10:21	45.001666	3460.92	20.1	2.13
161	02/27/02	07:10:21	46.001666	3461.79	28.4	0.87
162	02/27/02	08:10:21	47.001666	3463.34	33.1	1.55
163	02/27/02	09:10:21	48.001666	3465.17	41.7	1.83
164	02/27/02	10:10:21	49.001666	3467.21	47.2	2.04
165	02/27/02	11:10:21	50.001666	3469.02	54.3	1.81
166	02/27/02	12:10:21	51.001666	3471.55	59.8	2.53
167	02/27/02	13:10:21	52.001666	3473.55	59.9	2.00
168	02/27/02	14:10:21	53.001666	3475.86	66.3	2.31
169	02/27/02	15:10:21	54.001666	3477.61	65.0	1.75
170	02/27/02	16:10:21	55.001666	3478.88	59.9	1.27
171	02/27/02	17:10:21	56.001666	3480.44	55.9	1.56
172	02/27/02	18:10:21	57.001666	3481.73	41.8	1.29
173	02/27/02	19:10:21	58.001666	3483.53	35.7	1.80
174	02/27/02	20:10:21	59.001666	3485.29	32.7	1.76
175	02/27/02	21:10:21	60.001666	3487.19	30.2	1.90
176	02/27/02	22:10:21	61.001666	3489.21	26.5	2.02
177	02/27/02	23:10:21	62.001666	3490.99	24.7	1.78
178	02/28/02	00:10:21	63.001666	3492.19	27.5	1.20
179	02/28/02	01:10:21	64.001666	3493.96	26.3	1.77
180	02/28/02	02:10:21	65.001666	3496.05	22.7	2.08

PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO

Company: TMBR/SHARP DRILLING

Well Name: BLUE FIN 24 FED. #1

Location:

Field:

Test Type: HOUR BUILDUP

Gauge Depth: SURFACE

Serial Number:

	Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	Pressure PSIA	Temperature F	Differential PSIA
181	02/28/02	03:10:21	66.001666	3497.94	20.9	1.89
182	02/28/02	04:10:21	67.001666	3499.65	19.8	1.71
183	02/28/02	05:10:21	68.001666	3501.08	20.2	1.43
184	02/28/02	06:10:21	69.001666	3502.56	20.2	1.48
185	02/28/02	07:10:21	70.001666	3503.69	21.7	1.14
186	02/28/02	08:10:21	71.001666	3503.82	31.9	0.13
187	02/28/02	09:10:21	72.001666	3505.12	47.4	1.30
188	02/28/02	10:10:21	73.001666	3506.72	51.0	1.60
189	02/28/02	11:10:21	74.001666	3508.51	59.6	1.80
190	02/28/02	12:10:21	75.001666	3509.73	59.4	1.22
191	02/28/02	13:10:21	76.001666	3511.20	62.2	1.47
192	02/28/02	14:10:21	77.001666	3512.43	61.2	1.22
193	02/28/02	15:10:21	78.001666	3513.62	60.3	1.19
194	02/28/02	16:10:21	79.001666	3514.79	57.5	1.17
195	02/28/02	17:10:21	80.001666	3515.75	51.9	0.96
196	02/28/02	18:10:21	81.001666	3516.88	43.4	0.93
197	02/28/02	19:10:21	82.001666	3517.89	40.1	1.21
198	02/28/02	20:10:21	83.001666	3519.15	37.1	1.26
199	02/28/02	21:10:21	84.001666	3520.32	36.2	1.18
200	02/28/02	22:10:21	85.001666	3521.64	34.6	1.32
201	02/28/02	23:10:21	86.001666	3522.90	33.8	1.26
202	03/01/02	00:10:21	87.001666	3524.08	33.7	1.18
203	03/01/02	01:10:21	88.001666	3525.25	34.3	1.17
204	03/01/02	02:10:21	89.001666	3526.38	34.5	1.13
205	03/01/02	03:10:21	90.001666	3527.60	32.9	1.22
206	03/01/02	04:10:21	91.001666	3528.95	30.4	1.35
207	03/01/02	05:10:21	92.001666	3530.28	28.7	1.31
208	03/01/02	06:10:21	93.001666	3531.18	30.3	0.92
209	03/01/02	07:10:21	94.001666	3531.81	38.0	0.84
210	03/01/02	08:10:21	95.001666	3533.34	54.7	1.53
211	03/01/02	09:10:21	96.001666	3534.98	61.6	1.63
212	03/01/02	10:10:21	97.001666	3536.35	65.9	1.37
213	03/01/02	11:10:21	98.001666	3537.54	69.3	1.19
214	03/01/02	12:10:21	99.001666	3538.71	72.5	1.17
215	03/01/02	13:10:21	100.001666	3539.79	74.4	1.08
216	03/01/02	14:10:21	101.001666	3540.74	74.6	0.95
217	03/01/02	15:10:21	102.001666	3541.71	74.3	0.97
218	03/01/02	16:10:21	103.001666	3542.53	71.4	0.82
219	03/01/02	17:10:21	104.001666	3543.13	66.5	0.60
220	03/01/02	18:10:21	105.001666	3543.82	59.4	0.49
221	03/01/02	19:10:21	106.001666	3544.45	57.1	0.84
222	03/01/02	20:10:21	107.001666	3545.72	27.5	1.26
223	03/01/02	21:10:21	108.001666	3547.05	24.1	1.33
224	03/01/02	22:10:21	109.001666	3548.66	21.0	1.81
225	03/01/02	23:10:21	110.001666	3549.80	20.2	1.14

PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO

Company: TMBR/SHARP DRILLING

Well Name: BLUE FIN 24 FED. #1

Location:

Field:

Test Type: HOUR BUILDUP

Gauge Depth: SURFACE

Serial Number:

	Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	Pressure PSIA	Temperature F	Differential PSIA
226	03/02/02	00:10:21	111.001666	3551.07	16.8	1.27
227	03/02/02	01:10:21	112.001666	3552.29	17.7	1.23
228	03/02/02	02:10:21	113.001666	3553.45	18.8	1.16
229	03/02/02	03:10:21	114.001666	3554.50	18.4	1.04
230	03/02/02	04:10:21	115.001666	3555.62	15.8	1.12
231	03/02/02	05:10:21	116.001666	3556.50	16.0	0.88
232	03/02/02	06:10:21	117.001666	3558.03	13.9	1.54
233	03/02/02	07:10:21	118.001666	3557.94	17.2	-0.09
234	03/02/02	08:10:21	119.001666	3557.78	22.3	-0.17
235	03/02/02	09:10:21	120.001666	3558.33	24.2	0.56
236	03/02/02	10:10:21	121.001666	3558.61	29.6	0.27
237	03/02/02	11:10:21	122.001666	3559.36	31.1	0.76
238	03/02/02	12:10:21	123.001666	3559.97	34.6	0.61
239	03/02/02	13:10:21	124.001666	3560.75	37.6	0.78
240	03/02/02	14:10:21	125.001666	3561.55	39.4	0.80
241	03/02/02	15:10:21	126.001666	3562.39	40.3	0.84
242	03/02/02	16:10:21	127.001666	3563.17	38.8	0.79
243	03/02/02	17:10:21	128.001666	3564.21	34.4	1.03
244	03/02/02	18:10:21	129.001666	3565.53	26.1	1.32
245	03/02/02	19:10:21	130.001666	3566.63	23.2	1.10
246	03/02/02	20:10:21	131.001666	3568.17	19.6	1.53
247	03/02/02	21:10:21	132.001666	3569.59	17.0	1.42
248	03/02/02	22:10:21	133.001666	3571.09	14.5	1.50
249	03/02/02	23:10:21	134.001666	3572.44	12.8	1.36
250	03/03/02	00:10:21	135.001666	3573.64	11.8	1.20
251	03/03/02	01:10:21	136.001666	3574.88	10.8	1.25
252	03/03/02	02:10:21	137.001666	3576.06	9.9	1.18
253	03/03/02	03:10:21	138.001666	3576.99	9.7	0.93
254	03/03/02	04:10:21	139.001666	3578.03	9.1	1.04
255	03/03/02	05:10:21	140.001666	3579.68	7.4	1.64
256	03/03/02	06:10:21	141.001666	3580.92	6.5	1.24
257	03/03/02	07:10:21	142.001666	3577.62	17.1	-3.30
258	03/03/02	08:10:21	143.001666	3576.89	27.5	-0.92
259	03/03/02	09:10:21	144.001666	3577.01	32.6	0.31
260	03/03/02	10:10:21	145.001666	3577.62	35.4	0.62
261	03/03/02	11:10:21	146.001666	3578.19	39.2	0.57
262	03/03/02	12:10:21	147.001666	3578.90	43.9	0.70
263	03/03/02	13:10:21	148.001666	3579.68	47.6	0.79
264	03/03/02	14:10:21	149.001666	3580.48	48.5	0.77
265	03/03/02	15:10:21	150.001666	3581.14	48.6	0.68
266	03/03/02	16:10:21	151.001666	3581.77	47.0	0.63
267	03/03/02	17:10:21	152.001666	3582.34	43.8	0.56
268	03/03/02	18:10:21	153.001666	3583.44	32.4	1.10
269	03/03/02	19:10:21	154.001666	3584.94	24.1	1.50
270	03/03/02	20:10:21	155.001666	3586.21	20.8	1.27

**PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO**

Company: TMBR/SHARP DRILLING

Well Name: BLUE FIN 24 FED. #1

Location:

Field:

Test Type: HOUR BUILDUP

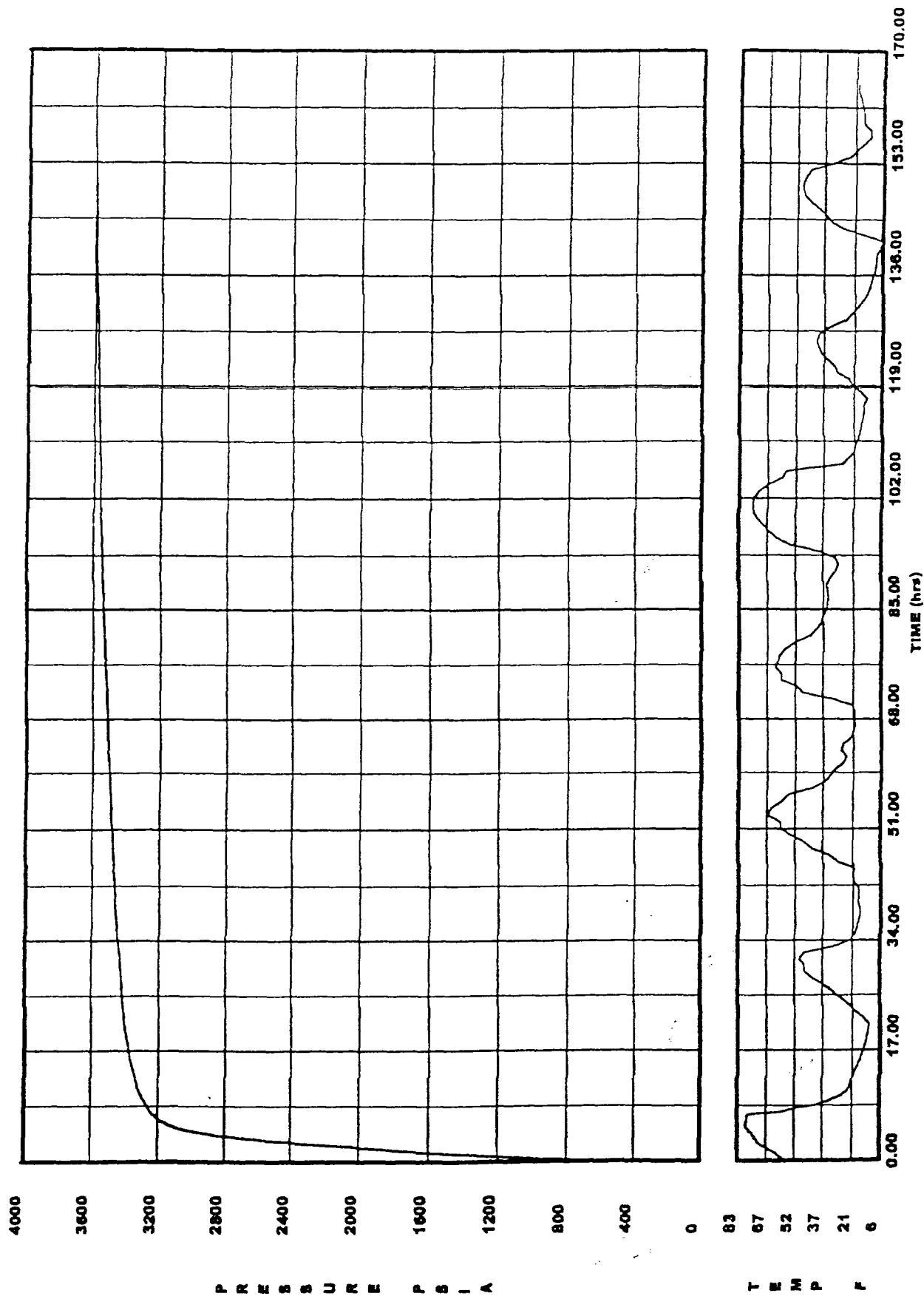
Gauge Depth: SURFACE

Serial Number:

	Date mm/dd/yy	Real Time hh:mm:ss	DeltaTime hours	Pressure PSIA	Temperature F	Differential PSIA
271	03/03/02	21:10:21	156.001666	3587.96	16.2	1.73
272	03/03/02	22:10:21	157.001666	3589.80	12.5	1.84
273	03/03/02	23:10:21	158.001666	3590.35	12.7	0.55
274	03/04/02	00:10:21	159.001666	3589.89	16.9	-0.66
275	03/04/02	01:10:21	160.001666	3590.46	16.7	0.77
276	03/04/02	02:10:21	161.001666	3591.05	16.9	0.59
277	03/04/02	03:10:21	162.001666	3591.46	17.7	0.41
278	03/04/02	04:10:21	163.001666	3591.92	18.8	0.45
279	03/04/02	05:10:21	164.001666	3592.25	20.0	0.33
280	03/04/02	06:10:21	165.001666	3592.96	19.8	0.72

PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO

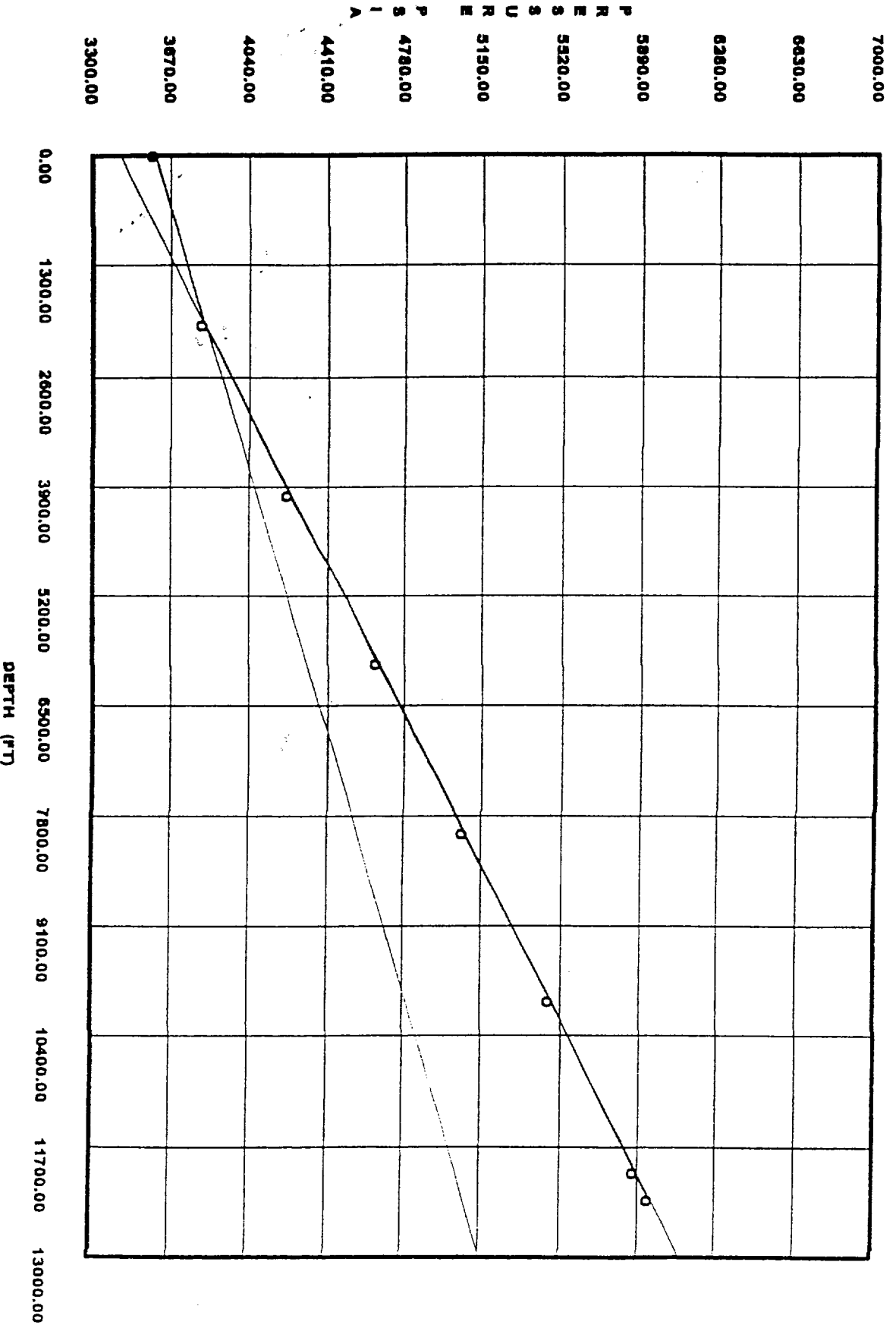
TMBR/SHARP DRILLING
BLUE FIN 24 FED. #1



JOB INFORMATION SHEET

Company Information		
Company:	TMBR/SHARP DRILLING	
Address:		
Well Information		
Well Name:	BLUE FIN 24 FED. #1	
Location:		
Field - Pool:		
Status:	SHUT IN	
Test Information		
Type Of Test:	STATIC GRADIENT	
Gauge Depth:	12315	
Prod. Int. CF:	12396 through 12410	
Prod. Through:	2.875" TUBING	
Elevation:		
On Bottom/Off Bottom:		
Tubing Pressure:	3593	
Casing Pressure:		
Shut In Time:		
Status:	SHUT IN	
Temp @ Run Depth:	183.79 @ 12315	
Surface Temperature:		
Gauge Information		
	Top Recorder	Bottom Recorder
Serial Number:	76115B	76077D
Calibration Date	6/01	6/01
Pressure Range	10000	10000
Comments		

STATIC GRADIENT
 TMBR/SHARP DRILLING
 BLUE FIN 24 FED. #1



PRO^{WELL} TESTING & WIRELINE

P.O. Box 791
Hobbs, New Mexico 88241
(505) 397-3590

Mr. Lonnie Arnold
TMBR/Sharp Drilling
4667 West Industrial
Midland, Texas 79703

Mr. Arnold,

July 29, 2002
COMMISSION
OIL CONSERVATION
CASE NUMBER
Dean EXHIBIT 13

I have analyzed the data from the 4 day build up that was run on the Bluefin 25 #1 in Lea County, New Mexico from July 25, 2002 through July 29, 2002. The data modeled as a **Two-Layer Reservoir with well bore storage and skin**. The data did show a slight cross-flow, but I just ignored this indication and matched the data as well as I could.

The first page of this report is the Main Results page, which has the parameters, used for the calculations and the answers that I found. I used a flow rate of **340 mcf/day** of gas. The net interval that I used was 25 feet of interval with an average porosity of 10%. The flow time that I used was 48 hours of production. The pressure that the model generated was 5425.33 psia, the permeability was 0.0501 md., and the formation skin was a +2.56 for the first layer and +0.0687 for the second layer, and the radius of investigation was 121 feet.

The second page is the simulation page. This page matches the model in red against the data in green. I only analyzed the final shut in, so the model will not match the first flow and shut in. The model matches most all the data very well. The model does deviate from the data though when the cross-flow occurs. The matching of the model to the Cartesian plot, the Semi-Log and Log-Log gives us a degree of confidence that we have chosen the correct model. If all three plots match well and the permeability, pressure and skin are reasonable numbers, then we know that the model is a believable one.

The third page is the Semi-Log plot. The pressure is in green and the model is the red line. The model matches the data very well. Due to the fact that this was a two-layer reservoir, I did not

TMBR000805

draw a straight line. Since the well is not quite in radial flow, the early time slope would give us too low of a reservoir pressure and the late time data would show too high of a pressure.

The last page is the Log-Log plot with derivative. This is the actual model page that I use to match the data. The delta pressure is in green, the derivative data is in red, the data model is in a red solid line and the derivative model is the solid black line. The dotted horizontal line is the radial flow line that the model generates. This model matches the very well, except for a couple of segments in time.

I have included nodal plots for fracture half-length. The **frac plot** indicates that with a **200 ft. frac half-length**, the well should **make 1.5 mmscf/day after 30 days, 1.2 mmscf/day after 60 days and 1.1 mmscf/day after 90 days.**

We appreciate this work and look forward to working more with you in the near future. If you have any questions, please give me a call at 915-697-2932 or at our office in Hobbs, New Mexico at (505) 397-3590. Thank you.

Sincerely,

Robert E. Shafer Jr.
Pro Well Testing and Wireline

Disclaimer:

We do not accept any responsibility for any actions taken as a result of this interpretation. This is a best estimate of reservoir parameters and due to the short flow time of this well, conditions could change.

PRO WIRELINE	Main Results		Analysis 1	
	Company TMBR/Sharp Drilling Well Blue Fin 25 #1		Field Test Name / #	

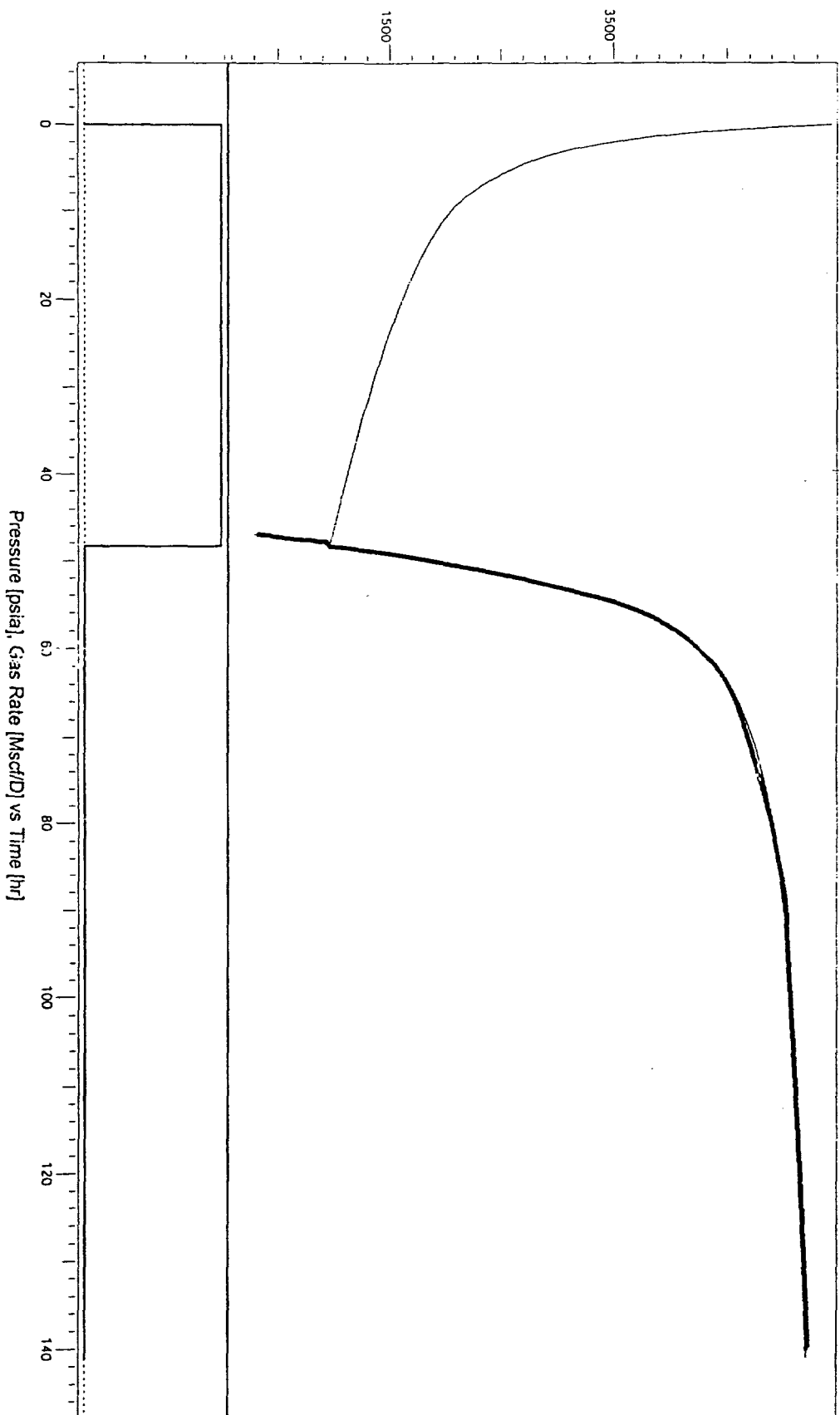
Test date / time Formation interval Perforated interval Gauge type / # Gauge depth	12429-466 	Water Rsw 25.9525 cf/bbl Bw 1.00803 B/STB Cw 3.14135E-6 psi-1 Muw 0.353579 cp Rhov 0.999662 g/cc Total Compr. ct 5.00071E-5 psi-1
--	-------------------------------	--

TEST TYPE Standard Porosity Phi (%) 10 Well Radius rw 0.33 ft Pay Zone h 25 ft Connate Water (%) 30 Water Salt (ppm) 10000 Rock compr. 3E-6 psi-1 Reservoir T 185.7 °F Reservoir P 7000 psia	Selected Model Model Option Standard Model Well Storage + Skin WBS Type Changing Reservoir Two Layers Boundary Infinite
--	---

FLUID TYPE Gas Gas Gas Gravity 0.7 Pseudo-Critical P 663.573 psia Pseudo-Critical T 377.584 °R Sour gas composition Hydrogen sulphide 0 Carbon dioxide 0 Nitrogen 0	Results TMatch 2.69 [hr]**-1 PMatch 4.01E-9 [psi2/cp]**-1 C 0.00411 STB/psi Ci/Cf 12.5 Alpha 0.151 skin1 2.56 skin2 0.0687 Pi 5425.33 psia k.h 1.25 md.ft k 0.0501 md Omega 0.0436 Lambda 6.72E-5 Kappa 0.00708 Rinv 121 ft Test. Vol. 20345.1 Barrels
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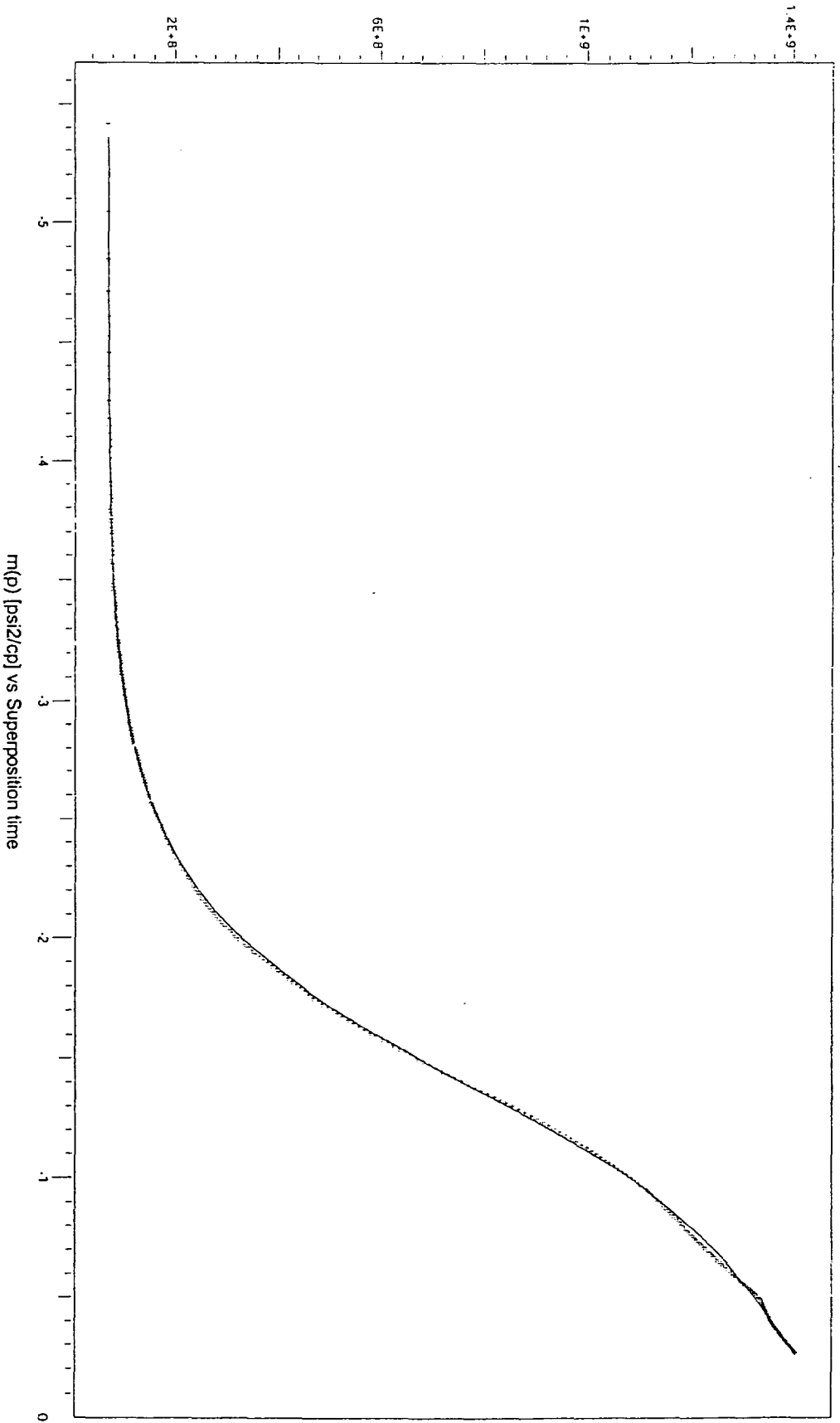
Salinity, ppm 10000 WGR 0 bbl/MMcf Reservoir T 185.7 °F Reservoir P 7000 psia	Water Properties. @ Reservoir T&P
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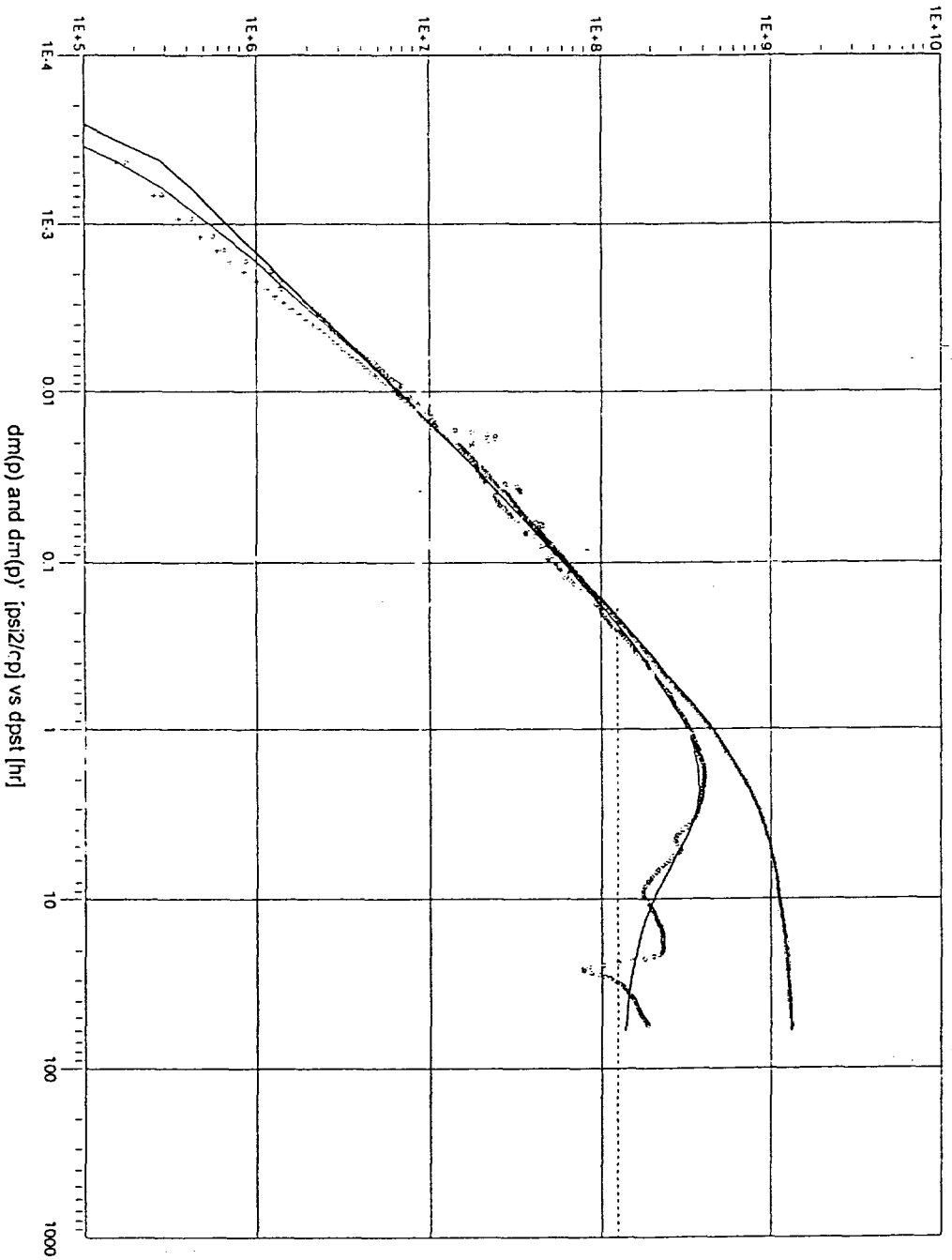
Gas Z 1.16404 Mug 0.0335048 cp Bg 0.00303451 cf/scf Cg 6.58067E-5 psi-1 Rhog 0.282533 g/cc
--



Company TMBR/Sharp Drilling
Well Blue Fin 25 #1

Field
Test Name / #

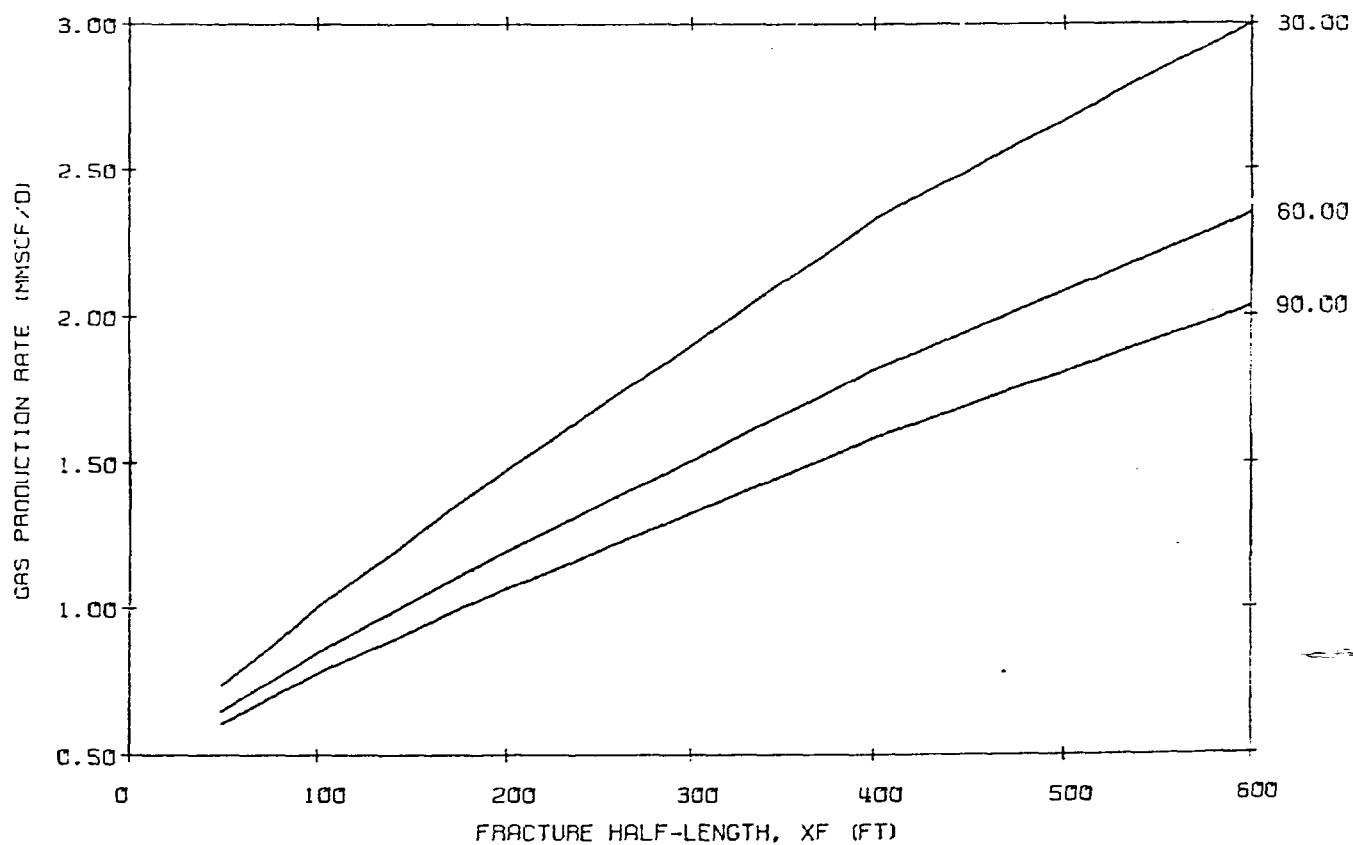




WELL TEST INTERPRETATION REPORT #:Bluefin7		PAGE: 26,
CLIENT : TMBR/Sharp Drilling		29-JUL-88
REGION :	SENSITIVITY ANALYSIS RATE VS. XF (VS. TIME)	FIELD:
DISTRICT:		ZONE :
BASE :		WELL :Blue Fin 2S #1
ENGINEER:		LOCATION:

RESERVOIR PRESSURE: 5425 PSI LIQUID/GAS RATIO: 72 STB/MMSCF
 PERMEABILITY: 0.050 MD TUBING SIZE: 2.441 IN (ID)
 NET THICKNESS: 25 FT WELLHEAD PRESSURE: 250 PSI

FRACTURE CONDUCTIVITY, $KF \cdot W$: 500 MD.FT



PRODUCTION RATE VS. FRAC. HALF-LENGTH, TRANSIENT CONDITIONS
 30.00 TO 90.00 DAYS:

PRESSURE SURVEY REPORT

**TMBR/SHARP DRILLING
BLUE FIN 25 #1
91 HOUR BUILDUP
7/25/02 TO 7/29/02**

**PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO**

TMBR000812

JOB INFORMATION SHEET

Company Information		
Company:	TMBR/Sharp Drilling	
Address:		
Well Information		
Well Name:	Blue Fin 25 #1	
Location:		
Field - Pool:		
Status:	FLOWING	
Test Information		
Type Of Test:	FLOWING GRADIENT	
Gauge Depth:	12340	
Prod. Int. CF:	12429 through 12436	
Prod. Through:	2.875" TUBING	
Elevation:		
On Bottom/Off Bottom:		
Tubing Pressure:	240	
Casing Pressure:		
Shut in Time:		
Status:	FLOWING	
Temp @ Run Depth:	151.12 @ 12340	
Surface Temperature:		
Gauge Information		
	Top Recorder	Bottom Recorder
Serial Number:	76115	76077
Calibration Date	6/5/01	6/5/01
Pressure Range	10000	10000
Comments		

**PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO**

TMBR000813

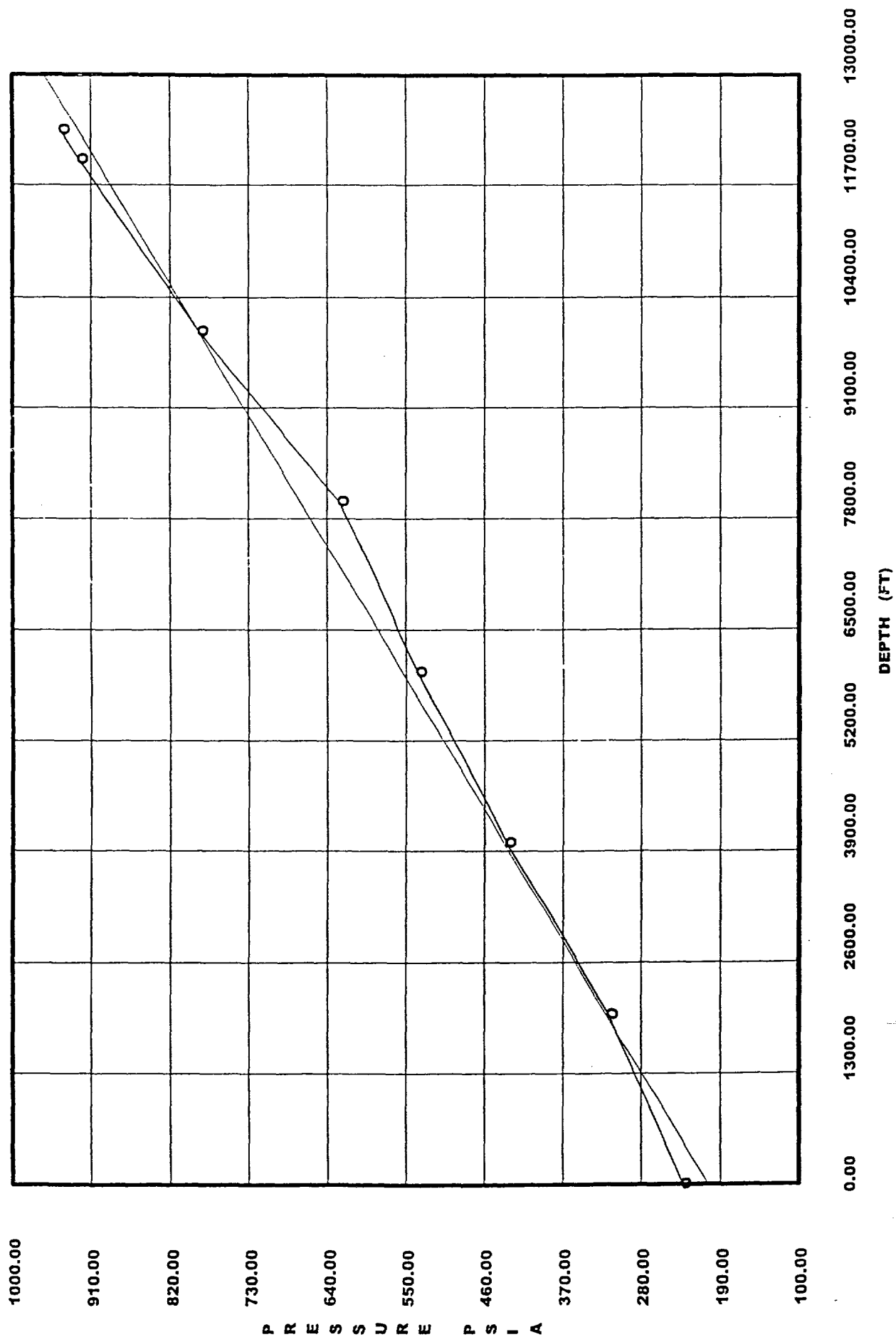
GRADIENT DATA SHEET

Depth ft	Pressure PSIA	Temperature Deg. F	Gradient PSIA/ft	Fluid Level ft
0.0000	232.88000	100.34000	0.04210	
2000.0000	317.08000	93.31700	0.05804	
4000.0000	433.16000	107.29000	0.05169	
6000.0000	536.53000	120.02000	0.04496	
8000.0000	626.44000	134.66000	0.08019	
10000.0000	786.82000	154.38000	0.06850	
12000.0000	923.82000	173.75000	0.06171	
12340.0000	944.80000	151.12000		
	END			

**PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO**

TMBR000814

FLOWING GRADIENT
TMBR/Sharp Drilling
Blue Fin 25 #1



JOB INFORMATION SHEET

Company Information		
Company:	TMBR/Sharp Drilling	
Address:		
Well Information		
Well Name:	Blue Fin 25 #1	
Location:		
Field - Pool:		
Status:	SHUT IN	
Test Information		
Type Of Test:	91 HOUR BUILDUP	
Gauge Depth:	12340	
Prod. Int. CF:	12429 through 12466	
Prod. Through:	2.875" TUBING	
Elevation:		
On Bottom/Off Bottom:		
Tubing Pressure:	3000	
Casing Pressure:		
Shut In Time:		
Status:	SHUT IN	
Temp @ Run Depth:	185.78 @ 12340	
Surface Temperature:		
Gauge Information		
	Top Recorder	Bottom Recorder
Serial Number:	76115	76077
Calibration Date	6/5/01	6/5/01
Pressure Range	10000	10000
Comments		

**PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO**

TMBR000816

Location:

Field:

Test Type: 91 HOUR BUILDUP

Gauge Depth: 12340

Serial Number: 76077

	Date mm/dd/yy	Real Time hh:mm:ss	DeltaTime hours	Pressure PSIA	Temperature F	Differential PSIA
1	07/25/02	12:34:27	0.000000	954.75	152.6	0.00
2	07/25/02	12:35:27	0.016667	959.80	152.1	5.05
3	07/25/02	12:36:27	0.033334	968.13	152.7	8.33
4	07/25/02	12:37:27	0.050000	978.87	153.3	10.74
5	07/25/02	12:38:27	0.066667	990.22	153.8	11.35
6	07/25/02	12:39:27	0.083334	1001.98	154.2	11.76
7	07/25/02	12:40:27	0.100000	1013.86	154.6	11.88
8	07/25/02	12:41:27	0.116667	1025.76	154.9	11.90
9	07/25/02	12:42:27	0.133334	1039.96	154.8	14.20
10	07/25/02	12:43:27	0.150000	1058.48	153.1	18.52
11	07/25/02	12:44:27	0.166667	1070.11	153.8	11.62
12	07/25/02	12:45:27	0.183334	1081.63	154.4	11.52
13	07/25/02	12:46:27	0.200000	1092.90	154.9	11.27
14	07/25/02	12:47:27	0.216667	1103.46	155.2	10.56
15	07/25/02	12:48:27	0.233334	1114.24	155.6	10.78
16	07/25/02	12:49:27	0.250000	1127.35	155.3	13.70
17	07/25/02	12:50:27	0.266667	1141.90	154.1	13.95
18	07/25/02	12:51:27	0.283334	1151.64	154.7	9.75
19	07/25/02	12:52:27	0.300000	1161.06	155.3	9.42
20	07/25/02	12:53:27	0.316667	1169.76	155.6	8.70
21	07/25/02	12:54:27	0.333334	1178.87	155.9	9.12
22	07/25/02	12:55:27	0.350000	1188.57	156.1	9.70
23	07/25/02	12:56:27	0.366667	1197.95	156.3	9.38
24	07/25/02	12:57:27	0.383334	1211.17	155.9	13.22
25	07/25/02	12:58:27	0.400000	1222.77	155.1	11.60
26	07/25/02	12:59:27	0.416667	1230.92	155.5	8.15
27	07/25/02	13:00:27	0.433334	1240.18	156.0	9.26
28	07/25/02	13:01:27	0.450000	1248.53	156.3	8.35
29	07/25/02	13:02:27	0.466667	1262.13	155.4	13.60
30	07/25/02	13:03:27	0.483334	1271.27	155.8	9.14
31	07/25/02	13:04:27	0.500000	1279.96	156.2	8.69
32	07/25/02	13:09:27	0.583334	1327.40	156.7	47.44
33	07/25/02	13:14:27	0.666667	1369.52	157.4	42.12
34	07/25/02	13:19:27	0.750000	1412.77	157.8	43.25
35	07/25/02	13:24:27	0.833334	1458.54	156.8	45.77
36	07/25/02	13:29:27	0.916667	1505.21	157.0	46.67
37	07/25/02	13:34:27	1.000000	1547.10	157.4	41.89
38	07/25/02	13:39:27	1.083334	1588.84	157.9	41.74
39	07/25/02	13:44:27	1.166667	1628.57	158.3	39.72
40	07/25/02	13:49:27	1.250000	1667.03	158.7	38.47
41	07/25/02	13:54:27	1.333334	1705.98	159.0	38.94
42	07/25/02	13:59:27	1.416667	1744.66	159.3	38.69
43	07/25/02	14:04:27	1.500000	1782.99	159.5	38.33
44	07/25/02	14:09:27	1.583334	1821.44	159.8	38.45
45	07/25/02	14:14:27	1.666667	1859.72	160.0	38.28

PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO

TMBR000817

Location:

Field:

Test Type: 91 HOUR BUILDUP

Gauge Depth: 12340

Serial Number: 76077

	Date mm/dd/yy	Real Time hh:mm:ss	DeltaTime hours	Pressure PSIA	Temperature F	Differential PSIA
46	07/25/02	14:19:27	1.750000	1895.72	160.1	36.00
47	07/25/02	14:24:27	1.833334	1932.99	160.4	37.28
48	07/25/02	14:29:27	1.916667	1972.21	160.7	39.22
49	07/25/02	14:34:27	2.000000	2008.18	160.9	35.97
50	07/25/02	14:39:27	2.083334	2044.67	161.1	36.49
51	07/25/02	14:44:27	2.166667	2080.27	161.3	35.60
52	07/25/02	14:49:27	2.250000	2115.69	161.6	35.43
53	07/25/02	14:54:27	2.333334	2151.09	161.8	35.40
54	07/25/02	14:59:27	2.416667	2185.69	162.1	34.60
55	07/25/02	15:04:27	2.500000	2221.04	162.3	35.34
56	07/25/02	15:09:27	2.583334	2255.57	162.6	34.53
57	07/25/02	15:14:27	2.666667	2290.43	162.9	34.86
58	07/25/02	15:19:27	2.750000	2324.00	163.1	33.57
59	07/25/02	15:24:27	2.833334	2358.00	163.4	34.00
60	07/25/02	15:29:27	2.916667	2389.95	163.6	31.95
61	07/25/02	15:34:27	3.000000	2422.33	163.8	32.38
62	07/25/02	15:39:27	3.083334	2453.84	164.0	31.50
63	07/25/02	15:44:27	3.166667	2484.70	164.3	30.88
64	07/25/02	15:49:27	3.250000	2515.57	164.5	30.87
65	07/25/02	15:54:27	3.333334	2546.63	164.8	31.06
66	07/25/02	15:59:27	3.416667	2577.31	165.0	30.68
67	07/25/02	16:04:27	3.500000	2607.18	165.3	29.86
68	07/25/02	16:09:27	3.583334	2637.02	165.5	29.84
69	07/25/02	16:14:27	3.666667	2667.08	165.7	30.06
70	07/25/02	16:19:27	3.750000	2696.26	166.0	29.18
71	07/25/02	16:24:27	3.833334	2724.60	166.2	28.34
72	07/25/02	16:29:27	3.916667	2752.69	166.4	28.09
73	07/25/02	16:34:27	4.000000	2780.79	166.6	28.10
74	07/25/02	16:39:27	4.083334	2808.69	166.8	27.90
75	07/25/02	16:44:27	4.166667	2836.16	167.1	27.46
76	07/25/02	16:49:27	4.250000	2863.41	167.3	27.25
77	07/25/02	16:54:27	4.333334	2890.21	167.5	26.80
78	07/25/02	16:59:27	4.416667	2916.76	167.7	26.55
79	07/25/02	17:04:27	4.500000	2943.60	167.9	26.84
80	07/25/02	17:09:27	4.583334	2969.44	168.1	25.84
81	07/25/02	17:14:27	4.666667	2995.38	168.3	25.94
82	07/25/02	17:19:27	4.750000	3021.40	168.5	26.03
83	07/25/02	17:24:27	4.833334	3046.64	168.7	25.24
84	07/25/02	17:29:27	4.916667	3071.11	168.9	24.46
85	07/25/02	17:34:27	5.000000	3096.41	169.1	25.31
86	07/25/02	17:39:27	5.083334	3120.98	169.3	24.56
87	07/25/02	17:44:27	5.166667	3144.86	169.5	23.88
88	07/25/02	17:49:27	5.250000	3168.75	169.7	23.89
89	07/25/02	17:54:27	5.333334	3192.84	169.9	24.10
90	07/25/02	17:59:27	5.416667	3216.30	170.1	23.46

PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO

TMBR000818

Company: TMBR/Sharp Drilling

Well Name: Blue Fin 25 #1

Location:

Field:

Test Type: 91 HOUR BUILDUP

Gauge Depth: 12340

Serial Number: 76077

	Date mm/dd/yy	Real Time hh:mm:ss	DeltaTime hours	Pressure PSIA	Temperature F	Differential PSIA
91	07/25/02	18:04:27	5.500000	3239.62	170.2	23.32
92	07/25/02	18:09:27	5.583334	3262.64	170.4	23.02
93	07/25/02	18:14:27	5.666667	3285.46	170.5	22.82
94	07/25/02	18:19:27	5.750000	3308.08	170.7	22.62
95	07/25/02	18:24:27	5.833334	3330.18	170.9	22.10
96	07/25/02	18:29:27	5.916667	3352.08	171.0	21.90
97	07/25/02	18:34:27	6.000000	3373.47	171.2	21.38
98	07/25/02	18:49:27	6.250000	3436.43	171.6	62.96
99	07/25/02	19:04:27	6.500000	3496.18	172.0	59.75
100	07/25/02	19:19:27	6.750000	3553.18	172.4	57.01
101	07/25/02	19:34:27	7.000000	3607.52	172.7	54.34
102	07/25/02	19:49:27	7.250000	3659.42	173.1	51.89
103	07/25/02	20:04:27	7.500000	3708.77	173.4	49.36
104	07/25/02	20:19:27	7.750000	3756.45	173.7	47.68
105	07/25/02	20:34:27	8.000000	3800.98	174.0	44.53
106	07/25/02	20:49:27	8.250000	3843.87	174.2	42.90
107	07/25/02	21:04:27	8.500000	3884.67	174.5	40.80
108	07/25/02	21:19:27	8.750000	3923.76	174.8	39.09
109	07/25/02	21:34:27	9.000000	3960.86	175.1	37.10
110	07/25/02	21:49:27	9.250000	3996.24	175.3	35.38
111	07/25/02	22:04:27	9.500000	4029.75	175.6	33.51
112	07/25/02	22:19:27	9.750000	4061.36	175.8	31.61
113	07/25/02	22:34:27	10.000000	4091.40	176.1	30.04
114	07/25/02	22:49:27	10.250000	4119.37	176.3	27.97
115	07/25/02	23:04:27	10.500000	4144.78	176.6	25.40
116	07/25/02	23:19:27	10.750000	4168.40	176.8	23.62
117	07/25/02	23:34:27	11.000000	4191.17	176.9	22.77
118	07/25/02	23:49:27	11.250000	4212.88	177.1	21.70
119	07/26/02	00:04:27	11.500000	4233.81	177.3	20.94
120	07/26/02	00:19:27	11.750000	4253.84	177.4	20.03
121	07/26/02	00:34:27	12.000000	4273.48	177.6	19.63
122	07/26/02	01:04:27	12.500000	4313.93	178.0	40.45
123	07/26/02	01:34:27	13.000000	4353.13	178.2	39.21
124	07/26/02	02:04:27	13.500000	4387.85	178.5	34.72
125	07/26/02	02:34:27	14.000000	4418.80	178.8	30.95
126	07/26/02	03:04:27	14.500000	4446.66	179.0	27.85
127	07/26/02	03:34:27	15.000000	4471.93	179.3	25.27
128	07/26/02	04:04:27	15.500000	4494.97	179.5	23.04
129	07/26/02	04:34:27	16.000000	4516.08	179.7	21.11
130	07/26/02	05:04:27	16.500000	4535.55	179.9	19.48
131	07/26/02	05:34:27	17.000000	4553.60	180.1	18.05
132	07/26/02	06:04:27	17.500000	4570.34	180.2	16.74
133	07/26/02	06:34:27	18.000000	4586.12	180.4	15.77
134	07/26/02	07:34:27	19.000000	4614.96	180.7	28.85
135	07/26/02	08:34:27	20.000000	4641.08	180.9	26.12

**PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO**

Company: TMBR/Sharp Drilling

Well Name: Blue Fin 25 #1

Location:

Field:

Test Type: 91 HOUR BUILDUP

Gauge Depth: 12340

Serial Number: 76077

	Date mm/dd/yy	Real Time hh:mm:ss	DeltaTime hours	Pressure PSIA	Temperature F	Differential PSIA
136	07/26/02	09:34:27	21.000000	4666.52	181.2	25.44
137	07/26/02	10:34:27	22.000000	4691.55	181.4	25.03
138	07/26/02	11:34:27	23.000000	4716.07	181.6	24.52
139	07/26/02	12:34:27	24.000000	4739.80	181.8	23.74
140	07/26/02	13:34:27	25.000000	4762.73	182.0	22.93
141	07/26/02	14:34:27	26.000000	4784.71	182.1	21.97
142	07/26/02	15:34:27	27.000000	4805.87	182.3	21.17
143	07/26/02	16:34:27	28.000000	4827.30	182.5	21.43
144	07/26/02	17:34:27	29.000000	4847.89	182.6	20.59
145	07/26/02	18:34:27	30.000000	4867.54	182.7	19.65
146	07/26/02	19:34:27	31.000000	4886.33	182.9	18.79
147	07/26/02	20:34:27	32.000000	4904.36	183.0	18.02
148	07/26/02	21:34:27	33.000000	4921.53	183.1	17.17
149	07/26/02	22:34:27	34.000000	4938.01	183.2	16.49
150	07/26/02	23:34:27	35.000000	4953.94	183.3	15.93
151	07/27/02	00:34:27	36.000000	4969.30	183.4	15.36
152	07/27/02	01:34:27	37.000000	4984.02	183.5	14.72
153	07/27/02	02:34:27	38.000000	4998.10	183.6	14.07
154	07/27/02	03:34:27	39.000000	5010.93	183.7	12.83
155	07/27/02	04:34:27	40.000000	5022.40	183.7	11.48
156	07/27/02	05:34:27	41.000000	5030.65	183.8	8.25
157	07/27/02	06:34:27	42.000000	5036.39	183.9	5.73
158	07/27/02	07:34:27	43.000000	5039.81	183.9	3.42
159	07/27/02	08:34:27	44.000000	5042.58	184.0	2.77
160	07/27/02	09:34:27	45.000000	5045.79	184.1	3.21
161	07/27/02	10:34:27	46.000000	5049.42	184.1	3.63
162	07/27/02	11:34:27	47.000000	5053.34	184.2	3.93
163	07/27/02	12:34:27	48.000000	5057.57	184.2	4.23
164	07/27/02	13:34:27	49.000000	5061.93	184.3	4.36
165	07/27/02	14:34:27	50.000000	5066.49	184.4	4.56
166	07/27/02	15:34:27	51.000000	5071.06	184.4	4.57
167	07/27/02	16:34:27	52.000000	5075.67	184.5	4.62
168	07/27/02	17:34:27	53.000000	5080.20	184.5	4.53
169	07/27/02	18:34:27	54.000000	5084.79	184.6	4.58
170	07/27/02	19:34:27	55.000000	5089.38	184.6	4.59
171	07/27/02	20:34:27	56.000000	5093.94	184.7	4.56
172	07/27/02	21:34:27	57.000000	5098.47	184.7	4.53
173	07/27/02	22:34:27	58.000000	5102.90	184.8	4.43
174	07/27/02	23:34:27	59.000000	5107.22	184.8	4.32
175	07/28/02	00:34:27	60.000000	5111.59	184.9	4.37
176	07/28/02	01:34:27	61.000000	5115.92	184.9	4.34
177	07/28/02	02:34:27	62.000000	5120.28	184.9	4.35
178	07/28/02	03:34:27	63.000000	5124.46	185.0	4.19
179	07/28/02	04:34:27	64.000000	5128.60	185.0	4.13
180	07/28/02	05:34:27	65.000000	5132.67	185.1	4.07

**PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO**

Company: TMBR/Sharp Drilling

Well Name: Blue Fin 25 #1

Location:

Field:

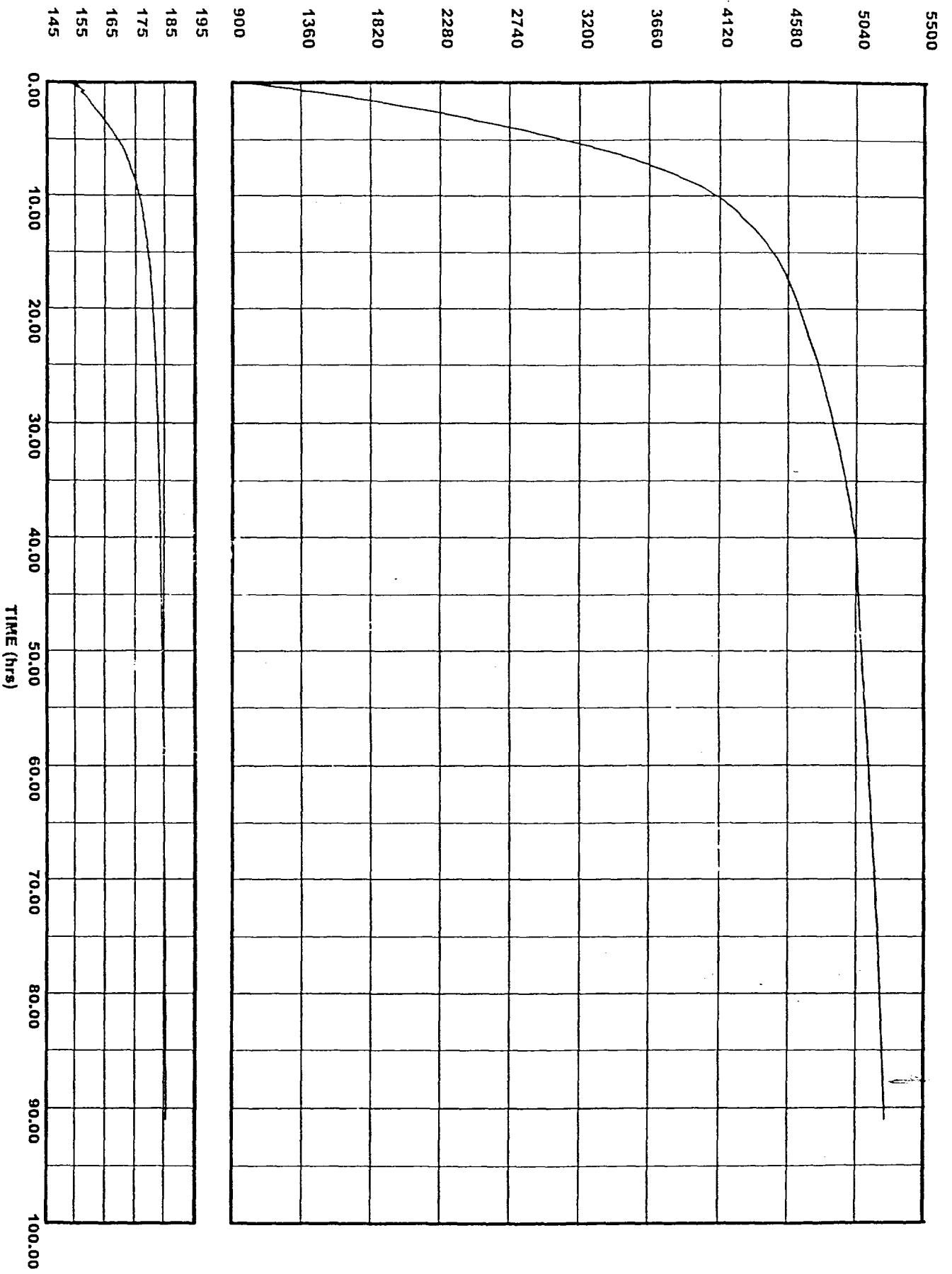
Test Type: 91 HOUR BUILDUP

Gauge Depth: 12340

Serial Number: 76077

	Date mm/dd/yy	Real Time hh:mm:ss	DeltaTime hours	Pressure PSIA	Temperature F	Differential PSIA
181	07/28/02	06:34:27	66.000000	5136.66	185.1	3.99
182	07/28/02	07:34:27	67.000000	5140.63	185.1	3.97
183	07/28/02	08:34:27	68.000000	5144.63	185.2	4.00
184	07/28/02	09:34:27	69.000000	5148.60	185.2	3.97
185	07/28/02	10:34:27	70.000000	5152.49	185.2	3.89
186	07/28/02	11:34:27	71.000000	5156.27	185.3	3.78
187	07/28/02	12:34:27	72.000000	5159.92	185.3	3.65
188	07/28/02	13:34:27	73.000000	5163.40	185.3	3.48
189	07/28/02	14:34:27	74.000000	5166.92	185.4	3.51
190	07/28/02	15:34:27	75.000000	5170.37	185.4	3.46
191	07/28/02	16:34:27	76.000000	5173.85	185.4	3.47
192	07/28/02	17:34:27	77.000000	5177.18	185.4	3.33
193	07/28/02	18:34:27	78.000000	5180.61	185.5	3.43
194	07/28/02	19:34:27	79.000000	5183.85	185.5	3.24
195	07/28/02	20:34:27	80.000000	5187.16	185.5	3.32
196	07/28/02	21:34:27	81.000000	5190.34	185.6	3.18
197	07/28/02	22:34:27	82.000000	5193.57	185.6	3.23
198	07/28/02	23:34:27	83.000000	5196.78	185.6	3.21
199	07/29/02	00:34:27	84.000000	5199.96	185.6	3.18
200	07/29/02	01:34:27	85.000000	5203.09	185.7	3.13
201	07/29/02	02:34:27	86.000000	5206.17	185.7	3.07
202	07/29/02	03:34:27	87.000000	5209.22	185.7	3.05
203	07/29/02	04:34:27	88.000000	5212.25	185.7	3.04
204	07/29/02	05:34:27	89.000000	5215.32	185.8	3.06
205	07/29/02	06:34:27	90.000000	5218.26	185.8	2.94
206	07/29/02	07:34:27	91.000000	5221.23	185.8	2.97

PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO



TMBR000822

JOB INFORMATION SHEET

Company Information		
Company:	TMBR/Sharp Drilling	
Address:		
Well Information		
Well Name:	Blue Fin 25 #1	
Location:		
Field - Pool:		
Status:	SHUT IN	
Test Information		
Type Of Test:	STATIC GRADIENT	
Gauge Depth:	12340	
Prod. Int. CF:	12429 through 12466	
Prod. Through:	2.875" TUBING	
Elevation:		
On Bottom/Off Bottom:		
Tubing Pressure:	3000	
Casing Pressure:		
Shut In Time:		
Status:	SHUT IN	
Temp @ Run Depth:	185.75 @ 12340	
Surface Temperature:		
Gauge Information		
	Top Recorder	Bottom Recorder
Serial Number:	76115	76077
Calibration Date	6/5/01	6/5/01
Pressure Range	10000	10000
Comments		

**PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO**

TMBR000823

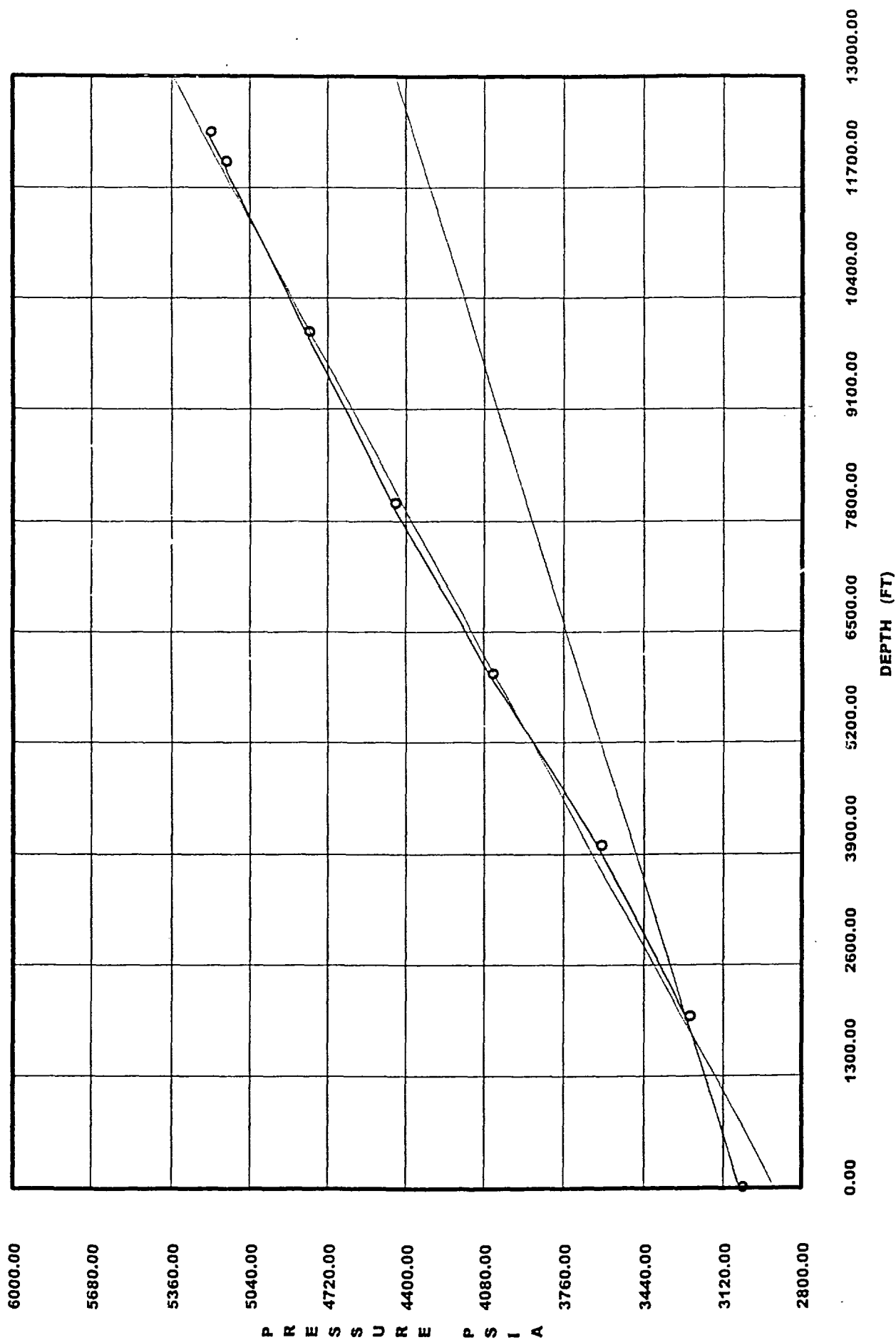
GRADIENT DATA SHEET

Depth ft	Pressure PSIA	Temperature Deg. F	Gradient PSIA/ft	Fluid Level ft
0.0000	3054.50000	84.93600		
			0.10660	
2000.0000	3267.70000	94.46300		
			0.17625	1709.08
4000.0000	3620.20000	106.95000		
			0.21915	
6000.0000	4058.50000	120.54000		
			0.19945	
8000.0000	4457.40000	135.09000		
			0.17640	
10000.0000	4810.20000	153.94000		
			0.16990	
12000.0000	5150.00000	181.64000		
			0.17824	
12340.0000	5210.60000	185.75000		
	END			

**PRO WELL TESTING & WIRELINE
HOBBS, NEW MEXICO**

TMBR000824

STATIC GRADIENT
 TMBR/Sharp Drilling
 Blue Fin 25 #1





CONFIDENTIAL

PERMIAN TESTERS, INC.

P.O. BOX 14228
ODESSA, TEXAS 79768

BF 25-1

12,380-453

COMMISSION

OIL CONSERVATION [REDACTED]

CASE NUMBER

Ocean

EXHIBIT

14

Drill Stem Test Report

Permian Testers, Inc.

Since 1962

Quality drillstem testing services in the Permian Basin region.
Offering conventional and straddle testing.

Drill Stem Test Reporting
And Analysis by:
Michael Hudson

TMBR000453



Toll Free (877) 505-8540
Website: datareporting.net

In making any interpretation, our employees will give the customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical or other measurements, we cannot and do not guarantee the accuracy or correctness of any interpretations. And we shall not be liable or responsible, for any loss, costs, damages or expenses incurred or sustained by the customer resulting from any interpretation

DRILL STEM TEST REPORT DATA

BOTTOM HOLE CHOKE 5/8"		SURFACE 3/8"		CUSHION		ELEVATION 3959'		G.L.	
TIME TOOL OPENED 08:05 Hrs		RECORDER DATA							
TOOL OPEN BEFORE I.S.I.P.		15		MIN.		TYPE Electronic		CAPACITY 10000	
INITIAL SHUT-IN		1		HRS.		0		MIN.	
TOOL OPEN		1		HRS.		15		MIN.	
FINAL SHUT-IN		4		HRS.		0		MIN.	
						CLOCK: TOP			
SURFACE ACTION Pre-Flow: Began with a strong blow, increased to 50.0 psi in 5 minutes; opened to pit on a 3/8" choke in 10 minutes; 80.0 psi in 12 minutes with gas to surface, 100.0 psi in 15 minutes = 338.0 MCFD. Final Flow: Began with a strong blow; increased to 55.0 psi in 5 minutes, 104.0 psi in 10 minutes, 153.0 psi in 20 minutes, 194.0 psi in 30 minutes, 225.0 psi in 40 minutes = 790.0 MCFD, 255.0 psi in 50 minutes = 880.0 MCFD, 280.0 psi in 60 minutes = 940.0 MCFD, 310.0 psi in 75 minutes = 1050.0 MCFD.									
RECOVERY 625' Total fluid = 3.06 bbl., consisting of: 145' Free oil = 0.71 bbl. (gravity: 50.5 Deg API @ 60 Deg F) 480' Highly oil & gas cut drilling mud = 2.35 bbl. (chlorides: 82,000 ppm)									
SUCCESSFUL TEST Yes									

LEASE NAME & NO.
BLUEFIN "25" #1
INTERVAL TESTED
12380' - 12453'

RECORDER NO.			
21058			
A (INITIAL HYDROSTATIC PRESSURE)		6380	PS.I
B (INITIAL PRE-FLOW PRESSURE)		208	PS.I
C (FINAL PRE-FLOW PRESSURE)	15	MIN.	281 PS.I
D (INITIAL SHUT-IN PRESSURE)	60	MIN.	5974 PS.I
E (INITIAL FLOW PRESSURE)		421	PS.I
F (FINAL FLOW PRESSURE)	75	MIN.	708 PS.I
G (FINAL SHUT-IN PRESSURE)	240	MIN.	5997 PS.I
H (FINAL HYDROSTATIC PRESSURE)		6416	PS.I

HOLE AND MUD DATA			
TOTAL DEPTH	12453'	MAIN HOLE	8 3/4"
RAT HOLE		CASING SIZE	9 5/8"
DEPTH OF CSG.	4957'	TYPE MUD	Brine
MUD WT.	9.6	VISCOSITY	38
WATER LOSS	11.0	CAKE	1/32
CHLORIDE	82,000		
RESISTIVITY	.071	@ 60	*F

SAMPLER REPORT			
PRESSURE IN SAMPLER	5000		PSI
BHT	186.5		*F
OIL	150 (distillate)		
WATER	0		
MUD	0		
GAS	3.085		
RESISTIVITY		@	*F
CHLORIDE			PPM.
GRAVITY	50.5	* API @ 60	*F

TOOL DATA				
NO. PACKERS	2			
SIZE PACKERS	7 3/4"			
CONVENTIONAL TEST	Yes			
TYPE TOOL	DEPTH	LENGTH	I.D.	O.D.
4 1/2" XH DP	11522		3.8	4.5
4 1/2" XH DC		790	2.3	6.25
Circulating Sub	12313	1		
Drillcollars	12343	30		
Shut-in Tool	12349	6		
Sampler	12352	3		
Hydraulic Tool	12357	5		
Jars	12363	6		
Recorder	12368	5		
Packer	12374	6		
Packer	12380	6		
Perfs		(		
Elec Recorder		)		
Drillcollars		(		
Bull Plug	TD	73		
DRLG. CONT TMBR/Sharp Drilling RIG# 24				

STATE
NEW MEXICO
FORMATION
MORROW SAND

TICKET #
7932
TEST #
3

REMARKS:

TESTER Don Terhune
APPROVED BY Lonnie Arnold



TMBR000454

TMBR/Sharp Drilling, Inc.
Bluefin "25" #1, Dst #3

Comments relative to analysis of the pressure data from well test which was run in the Morrow Sand by Permian Testers, Inc.

This analysis has been prepared on the basis of the gas recovery and equations applicable to gas recovery tests, radial flow analysis techniques and derivative analysis techniques. The character of the pressure curves on the various diagnostic plots indicate a change in slope during the shut-in period. Various models were generated and the most appropriate model appears to be a multi-layered model with two porosity zones present. When other well data is obtained it may be necessary to change the estimated reservoir parameters.

The radial plots indicate a maximum initial reservoir pressure of 6224 psi and a maximum final reservoir pressure of 6278 psi which is equivalent to a subsurface pressure gradient of 0.507 psi/ft at gauge depth.

The Average Production Rate which was used in this analysis is the last gas flow rate which was gauged during the final flowing period.

The calculated Skin Factors indicate no well-bore damage was present at the time of this formation test.

The evaluation criteria used in the drillstem test analysis system indicate this is a good mechanical test and the results obtained in this analysis should be reliable with reasonable limits relative to the assumptions which have been made.

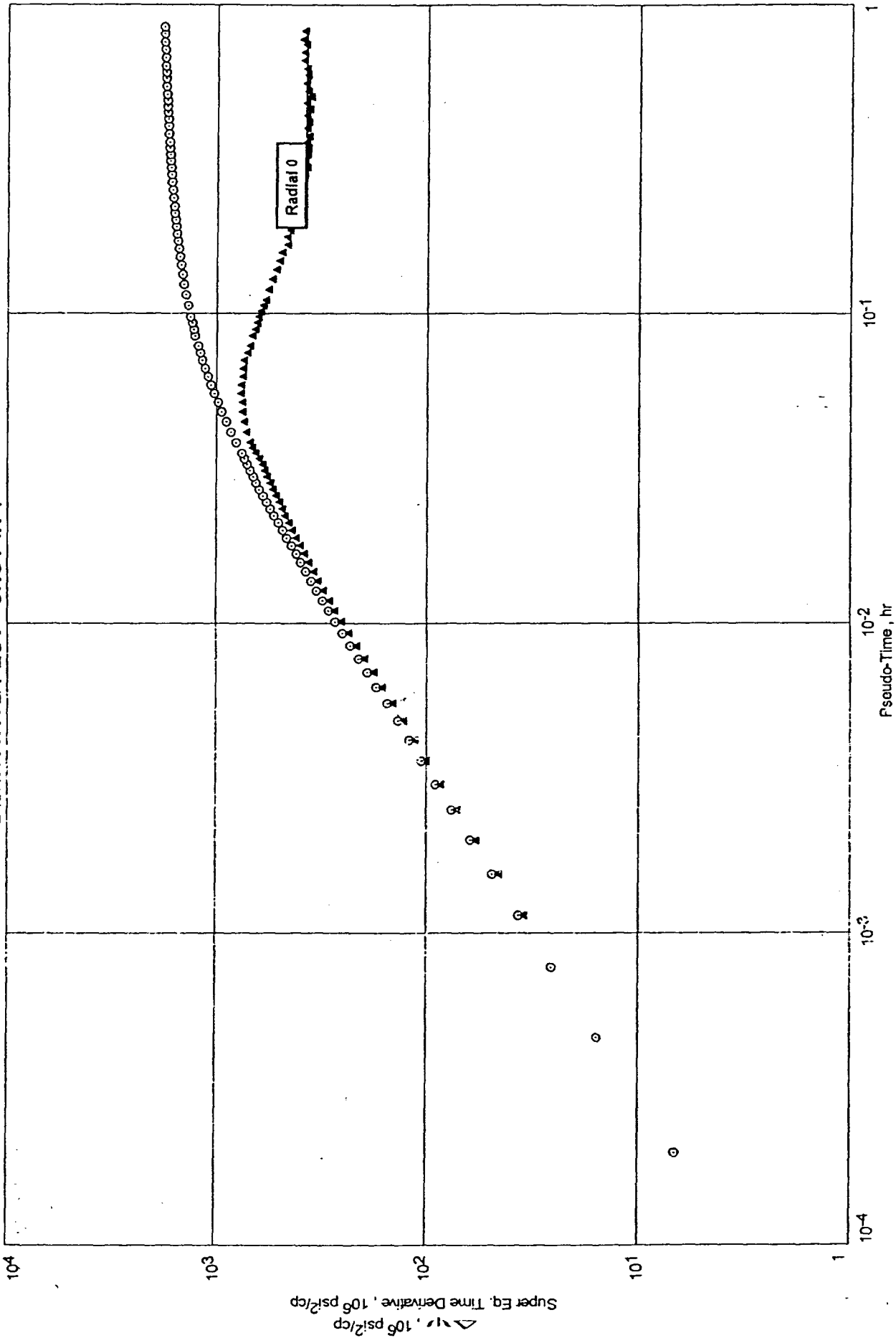
Michael Hudson
Analyst
(877) 505-8540



TMBR000455

TMBR/Sharp Drilling, Inc.
 Bluefin "25" 1, Dst 3, Gauge 21058

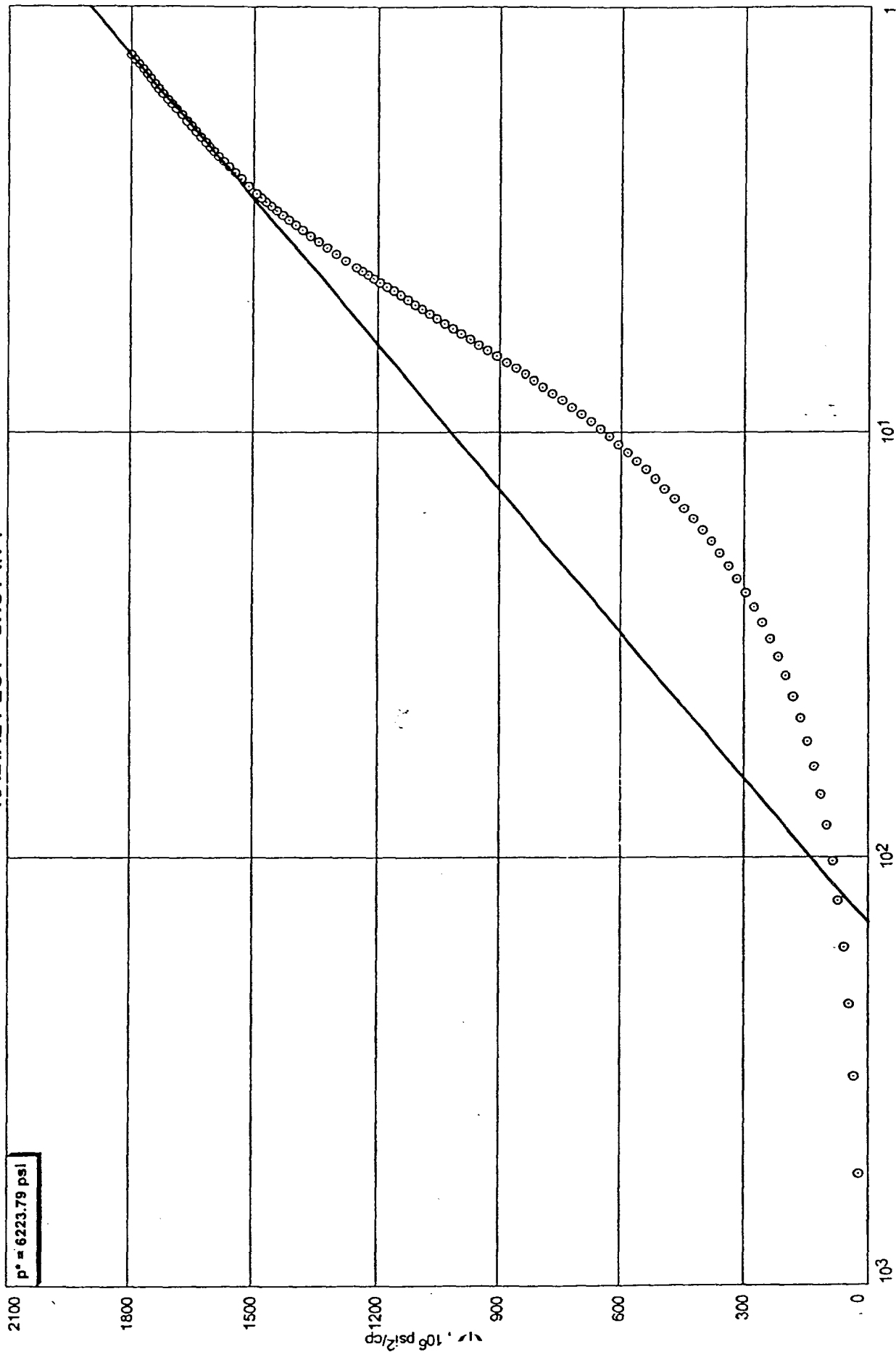
DERIVATIVE PLOT - SHUT-IN 1



TMBR000457

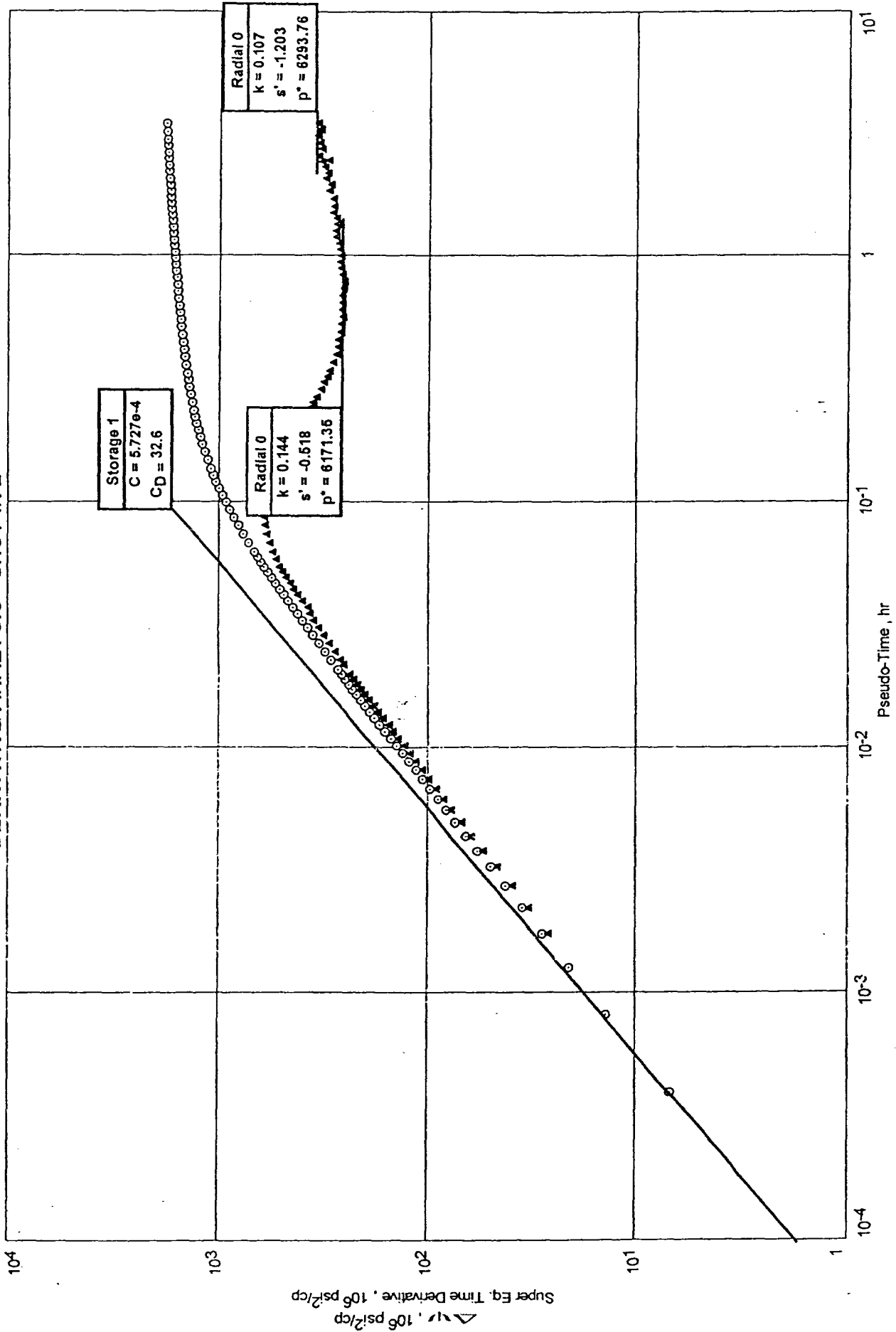
TMBR/Sharp Drilling, Inc.
 Bluefin "25" 1, Dst 3, Gauge 21058

RADIAL PLOT - SHUT-IN 1



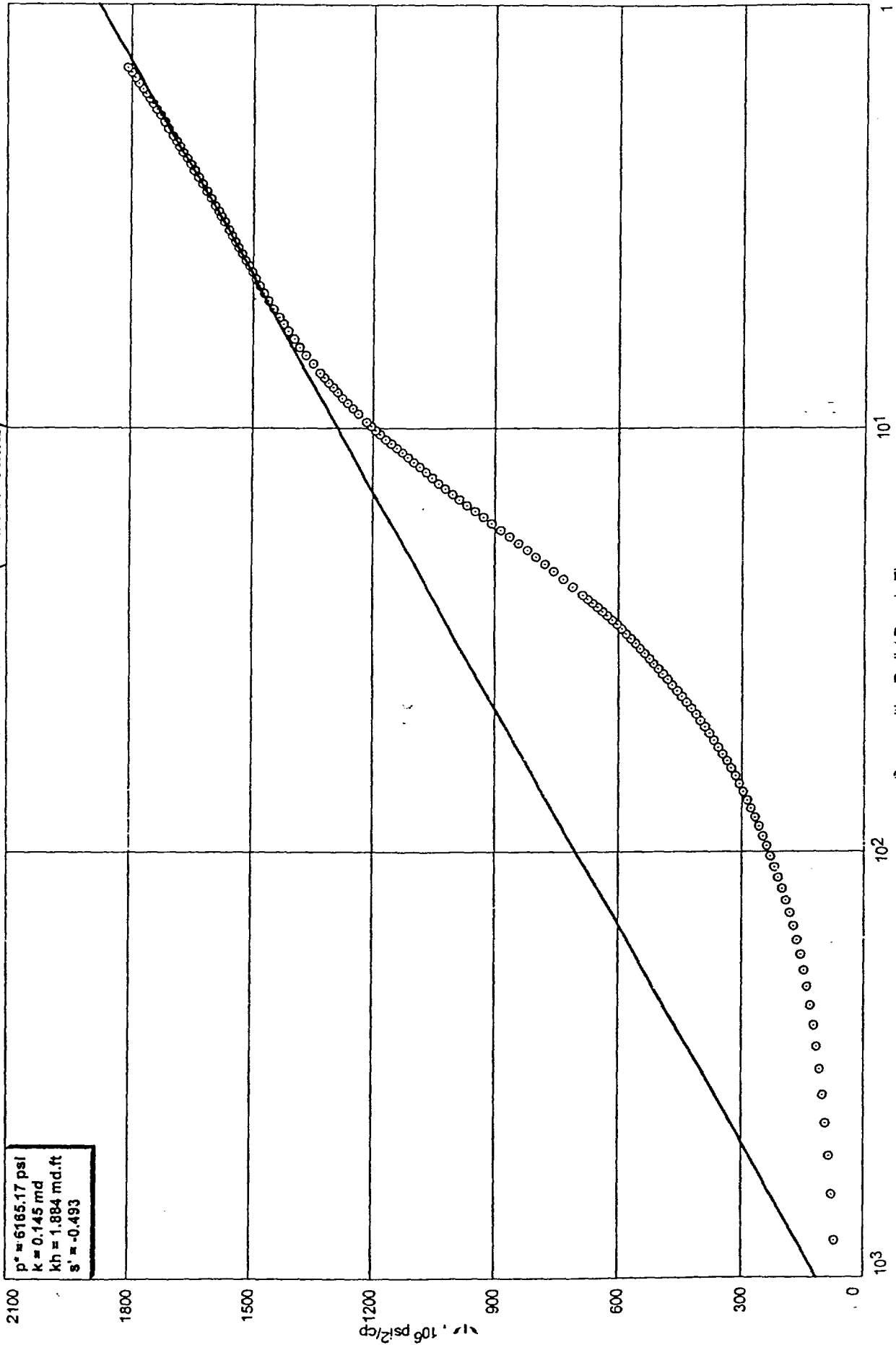
TMBR0000158

DERIVATIVE ANALYSIS - SHUT-IN 2



TMBR/Sharp Drilling, Inc.
Bluefin "25" 1, Dst 3, Gauge 21058

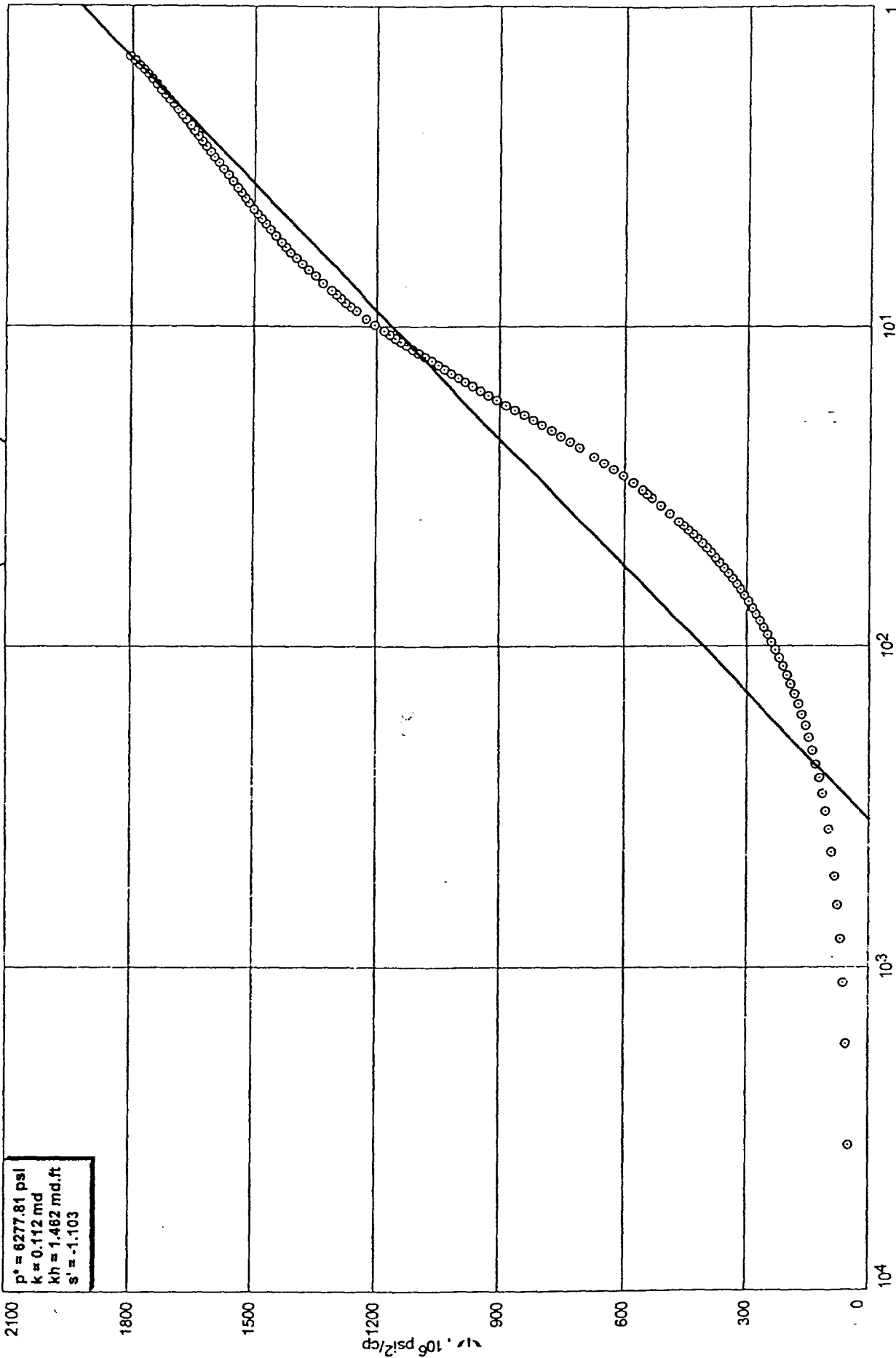
RADIAL ANALYSIS - SHUT-IN 2 (EARLY TIME)



TMBR0000460

TMBR/Sharp Drilling, Inc.
Bluefin "25" 1, Dst 3, Gauge 21058

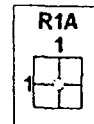
RADIAL ANALYSIS - SHUT-IN 2 (LATE TIME)



TMBR0000461

Gas Well Test - Buildup

Radial Flow Analysis From Early Time Data



TMBR/Sharp Drilling, Inc.

Bluefin "25" 1, Dst 3, Gauge 21058

Analysis Results

Total Sandface Rate (q_{tB_1})	609.446 bbl/d	Apparent Skin (s')	-0.493
Semilog Slope (m)	587.941	Skin - Damage	-0.493
Gas Permeability (k_g)	0.145 md	Damage Ratio (DR)	0.875
Flow Capacity (kh)	1.884 md.ft	Flow Efficiency (FE)	1.142
Total Mobility (k/μ_t)	5.20 md/cp		
Total Transmissivity (kh/μ_t)	67.58 md.ft/cp		

Reservoir Parameters

Net Pay (h)	13.000 ft
Total Porosity (ϕ_t)	12.00 %
Water Saturation (S_w)	20.00 %
Oil Saturation (S_o)	0.00 %
Gas Saturation (S_g)	80.00 %
Wellbore Radius (r_w)	0.36 ft
Formation Temperature (T)	186.5 °F
Formation Compressibility (c_f)	4.508e-6 psi ⁻¹
Total Compressibility (c_t)	7.766e-5 psi ⁻¹

Pressures

Initial Pressure (p_i)	5997.44 psi
Extrapolated Pressure (p^*)	6165.17 psi
Ave. Reservoir Press	6164.92 psi
Final Flowing Pressure (p_{wfo})	707.58 psi

Production and Times

Corrected Flow Time (t_c)	1.5083 hr
Cumulative Gas Production	0.066 MMCF
Final Gas Rate	1.050 MMCF/D

Fluid Properties

Gas Gravity (G)	0.650
N ₂	0.00 %
CO ₂	0.00 %
H ₂ S	0.00 %
Critical Pressure (P_c)	670.91 psi
Critical Temperature (T_c)	373.97 R
PVT Reference Pressure (pp_{VT})	5997.44 psi
Gas Compressibility (c_g)	9.07421e-5 psi ⁻¹
Gas Compressibility Factor (z)	1.073
Gas Viscosity (μ_g)	0.0279 cp
Gas Formation Volume Factor (B_g)	0.000580 bbl/scf

Extended Rates Calculations

Drainage Area	160.0 acres
Specified Flowing Pressure	707.58 psi
Specified Reservoir Pressure	6164.92 psi
3 - Month Constant Rate	0.519 MMCF/D
6 - Month Constant Rate	0.493 MMCF/D
Stabilized Rate @ Current Skin	0.490 MMCF/D
Stabilized Rate @ Skin of 0	0.460 MMCF/D
Stabilized Rate @ Skin of -4	0.898 MMCF/D

Multi-Layer Gas Well Model

Case Name : Multi-Layered Model

TMBR/Sharp Drilling, Inc.

Bluefin "25" 1, Dst 3, Gauge 21058

TMBR000463

Model Parameters

	<u>Layer 1</u>	<u>Layer 2</u>
Permeability	$k_1 = 0.095 \text{ md}$	$k_2 = 0.176 \text{ md}$
Net Pay	$h_1 = 9.00 \text{ ft}$	$h_2 = 4.00 \text{ ft}$
Skin	$s_1 = -1.000$	$s_2 = -0.267$
Outer Radius	$r_{e1} = 31.000 \text{ ft}$	$r_{e2} = 17.000 \text{ ft}$
Total Porosity	$\phi_{t1} = 12.00 \%$	$\phi_{t2} = 12.00 \%$
Total Compressibility	$c_{t1} = 7.76626\text{e-}5 \text{ psi}^{-1}$	$c_{t2} = 7.76626\text{e-}5 \text{ psi}^{-1}$
Viscosity	$\mu_1 = 0.028 \text{ cp}$	$\mu_2 = 0.028 \text{ cp}$
Inter Porosity Coeff	$\lambda_1 = 0.0000\text{e}0$	$\lambda_2 = 1.0000\text{e}0$
Storativity Ratio	$\omega_1 = 0.0000\text{e}0$	$\omega_2 = 1.0000\text{e}0$
Apparent Wellbore Storage Dim. (C_{aD})	3.29e9	
Wellbore Storage Constant Dim. (C_D)	12.50	
Storage Pressure Param. Dim. (C_{pD})	1.062e-6	

Formation Parameters

Water Saturation (S_w)	20.00 %
Oil Saturation (S_o)	0.00 %
Gas Saturation (S_g)	80.00 %
Wellbore Radius (r_w)	0.35 ft
Formation Temperature (T)	186.5 °F

Production and Pressure

Final Gas Rate	1.050 MMCF/D
Final Measured Pressure	5997.44 psi
Initial Pressure (p_i)	5997.44 psi

Synthesis Results

Average Error	-1.82 %
Synthetic Initial Pressure (p_i)	7094.05 psi
Pressure Drop Due To Skin (Δp_s)	psi
Extrapolated Pressure at Specified Time	6251.59 psi
Flow Efficiency (FE)	
Damage Ratio (DR)	

Fluid Properties

Gas Gravity (G)	0.650
N ₂	0.00 %
H ₂ S	0.00 %
CO ₂	0.00 %
Critical Pressure (P_c)	670.91 psi
Critical Temperature (T_c)	373.97 R
PVT Reference Pressure (p_{pVT})	5997.44 psi
Gas Compressibility (c_g)	9.07421e-5 psi ⁻¹
Gas Compressibility Factor (z)	1.073
Gas Viscosity (μ_g)	0.0279 cp
Gas Formation Volume Factor (B_g)	0.000580 bbl/scf

Forecasts

Specified Flowing Pressure (p_{wfS})	707.58 psi
3 - Month Constant Rate	0.004 MMCF
6 - Month Constant Rate	0.002 MMCF
Specified Forecast Time	12.00 month
Forecast Constant Rate @ Current Skin	0.001 MMCF
Forecast Constant Rate @ Skin=0	0.001 MMCF
Forecast Constant Rate @ Skin=-4	0.001 MMCF

Multi-Layered Model

TMBR/Sharp Drilling, Inc.

Bluefin "25" 1, Dst 3, Gauge 21 (Side View)

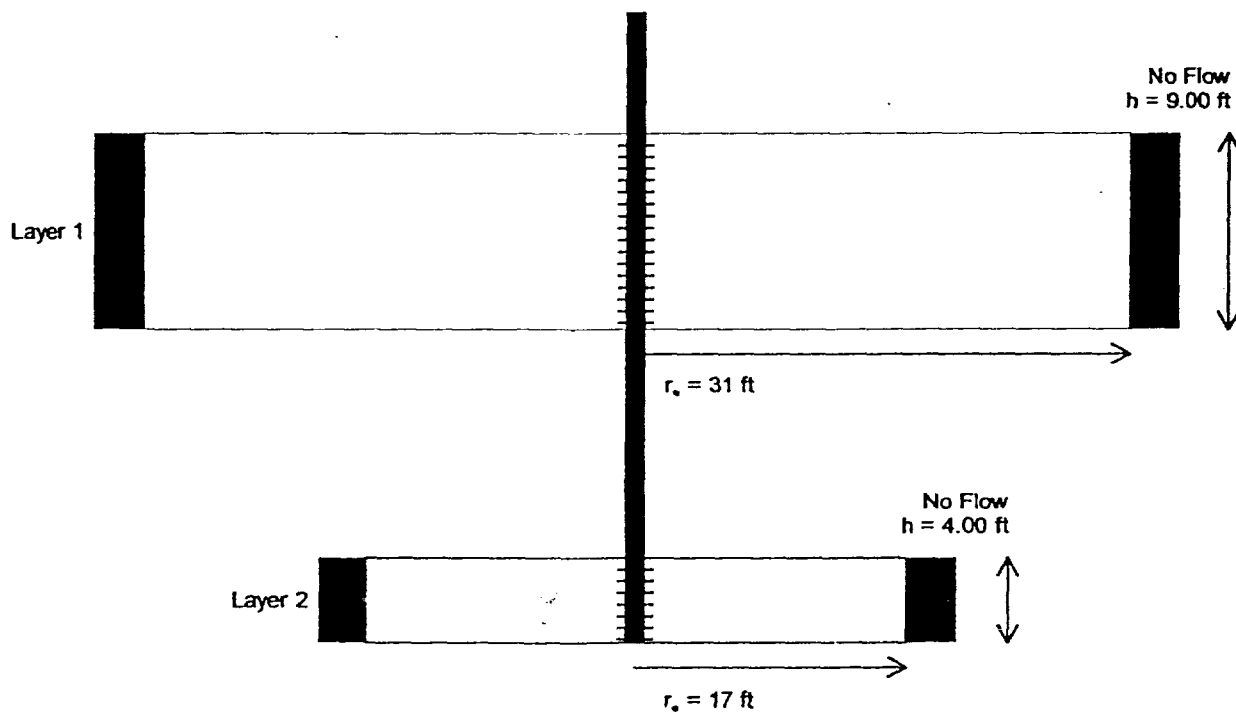
(Not to scale)

$$k_1 = 0.095 \text{ md}$$

$$s_1 = -1.000$$

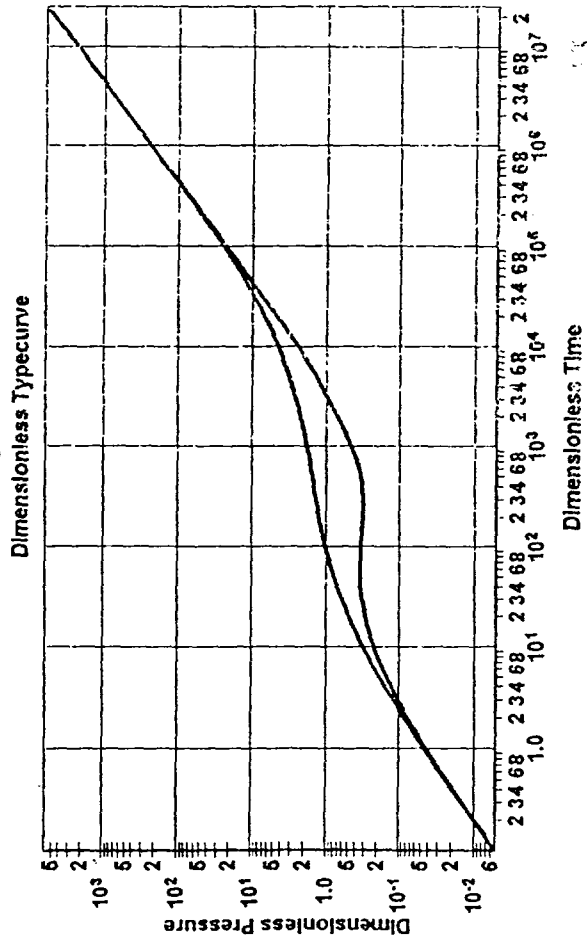
$$k_2 = 0.176 \text{ md}$$

$$s_2 = -0.267$$

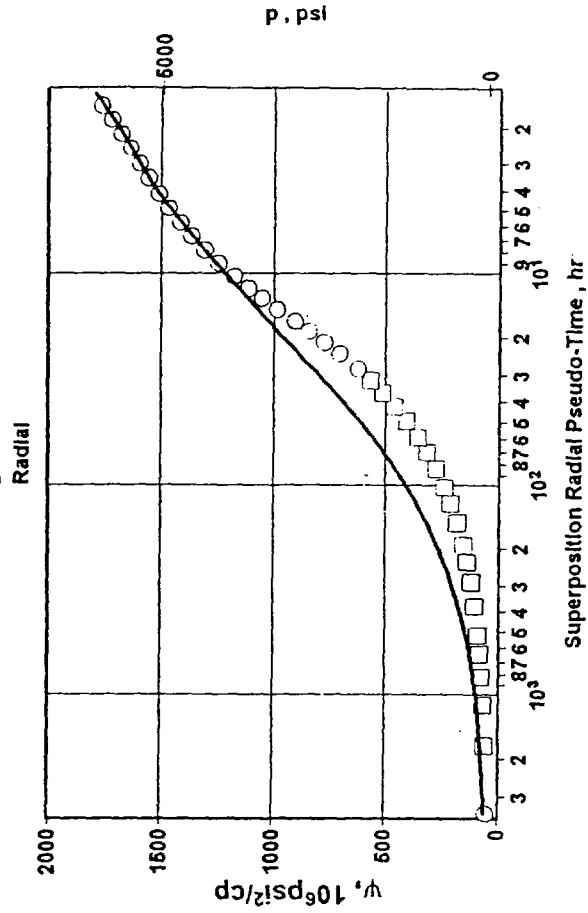


TMBR000464

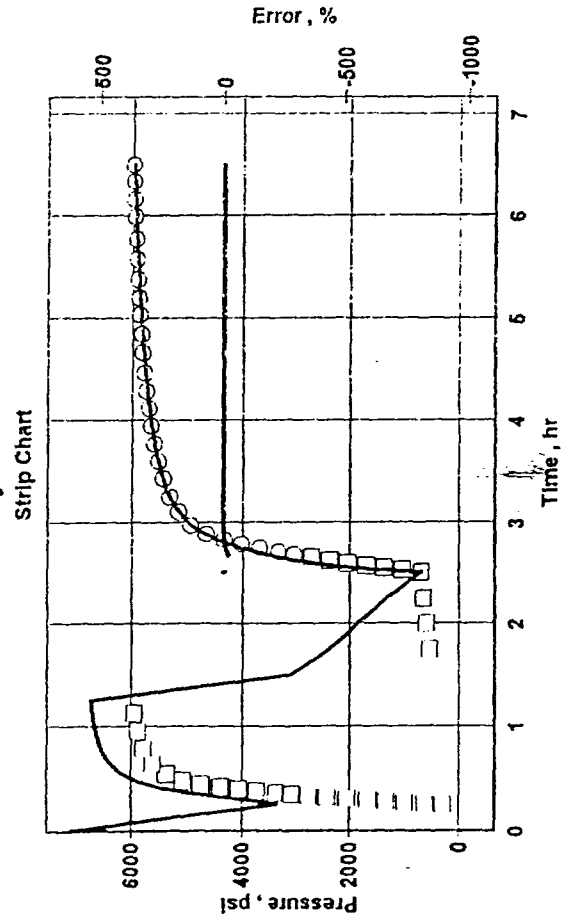
Multi-Layered Model



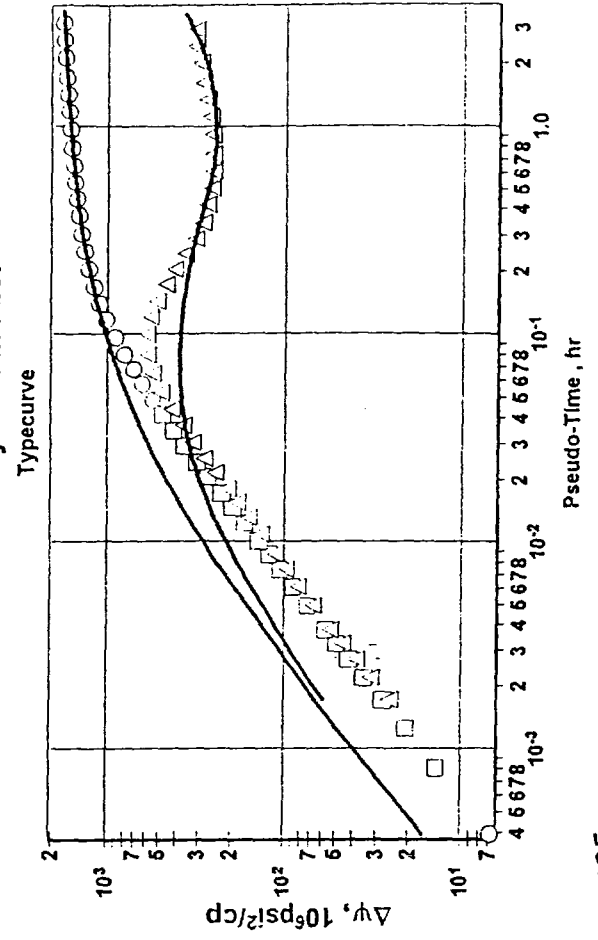
Multi-Layered Model



Multi-Layered Model



Multi-Layered Model

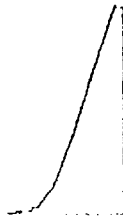


GUIDE TO IDENTIFICATION AND INTERPRETATION OF DST DATA:



Initial Hydrostatic:

The hydrostatic pressure increases as the test tool is lowered in well. After reaching the test interval the packer is set, the hydraulic tool is opened and the test zone is opened to atmospheric. This happens almost instantaneously and the pressure drop is recorded. This is called the pre-flow period. The purpose is to relieve the hydrostatic pressure from the annular space within the tested interval.



Pre-Flow Period:

The length of the pre-flow period can be determined by the surface blow according to the following:

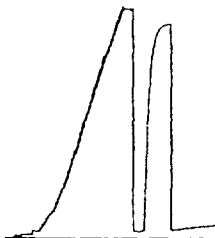
- Approximately 5 minutes in duration if the permeability is estimated to be greater than 15 md.
- Approximately 10 minutes in duration if the permeability is estimated to be less than 15 md.

If the pre-flow period is too short the hydrostatic pressure will not be dissipated and the following shut-in period may be under the influence of "hydrostatic super-charge" effect.



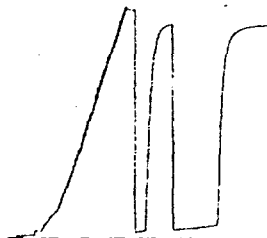
Initial shut-in Period:

When the pre-flow period is completed the tool is closed and the reservoir pressure is allowed to build. This is called the initial shut-in period. The purpose is to record the reservoir pressure before any production has occurred. It is important to have an initial shut-in period long enough to extrapolate a maximum reservoir pressure.



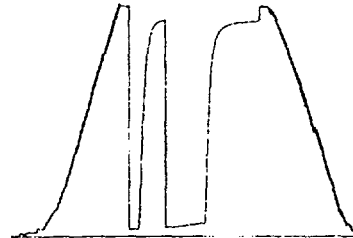
Second Flow Period:

When the initial shut-in is completed the tool is again opened. This is called the second flow period. The purpose is to allow reservoir fluid and gas to enter the drill string. Analysis of the final flow data will help to determine the flowing capabilities of the tested reservoir. Depending on conditions, when the tool is opened the pressure will drop from reservoir pressure to the pre-flow pressure and will record the weight of the formation fluid entering the drill string. If gas is present the flowing pressure will reflect the upstream pressure of the gas flow. The duration of the final flow period should be approximately 60 to 180 minutes, depending on conditions and estimated permeability. If gas flows to surface a stabilized measured rate is desirable for proper reservoir evaluation.



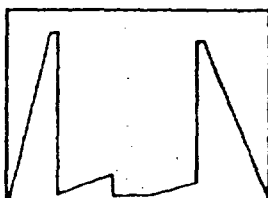
Second Shut-in Period:

When the second flow period is completed, the tool is again closed. This is called the second shut-in period. The purpose is to measure the reservoir pressure after a certain amount of production has occurred. Proper evaluation of the second shut-in data will help determine if the tested reservoir is of limited area extent. Skin Damage, Permeability, Radius of Investigation and other reservoir properties can also be determined.

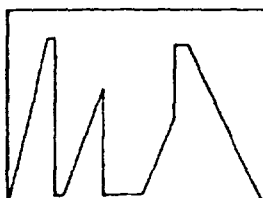


Final Hydrostatic:

When the second shut-in period is completed the packer is released which allows drilling fluid to flow from the hole into the test zone and the hydrostatic pressure is then recorded. Because the pressure is equalized, the packer can be easily removed from the packer seat. As the test tool is pulled from the well, the hydrostatic pressure decreases to atmospheric pressure.



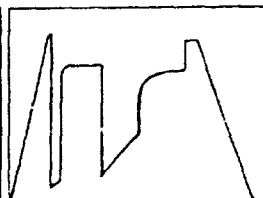
Virtually No Effective Permeability



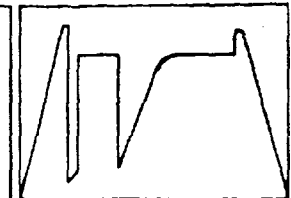
Slightly Higher Permeability



Average Permeability



High Permeability



Excellent Permeability

CAUSE N. CV-2001-315C, TMBR/SHARP DRILLING, INC. V.
DAVID H. ARRINGTON OIL GAS, INC. ET AL

WILLIAMSON PROJECT 2.8895

GAS VOLUMETRIC CALCULATION

Gas Volumetric Calculation

(C) Copyright 1990-1997
by Douglas M Boone
All Rights Reserved
Version 5.0

Well Name: Blue Fin "25" #1
Field Name: Chester
Gas Gravity 0.71
% N2 0.88 %
% CO2 0.46 %
% H2S 0.00 %
Condensate (Yes=1) 1
Res. Temperature 163 F
Initial Pressure 6,299 Psia
Abandonment Pres 800 Psia
Net Pay 35 Feet
Acres 100 Acres
Water Sat 35.00 %
Porosity 18.00 %

Optional **
Recovery 0.00%

20-May-02
Tc = 383.24
Pc = 664.47
Tc' = 382.32
Pc' = 662.87
Tr = 1.632
Pri = 9.503
Pra = 1.207
Zi = 1.0977
Za = 0.9149

Gas In Place 5,822,524 Mcf
Recoverable Gas 4,935,286 Mcf
Recovery 84.76%

OIL CONSERVATION

CASE NUMBER

Ocean EXHIBIT 15

COMMISSION

COMMISSION
OIL CONSERVATION

CASE NUMBER

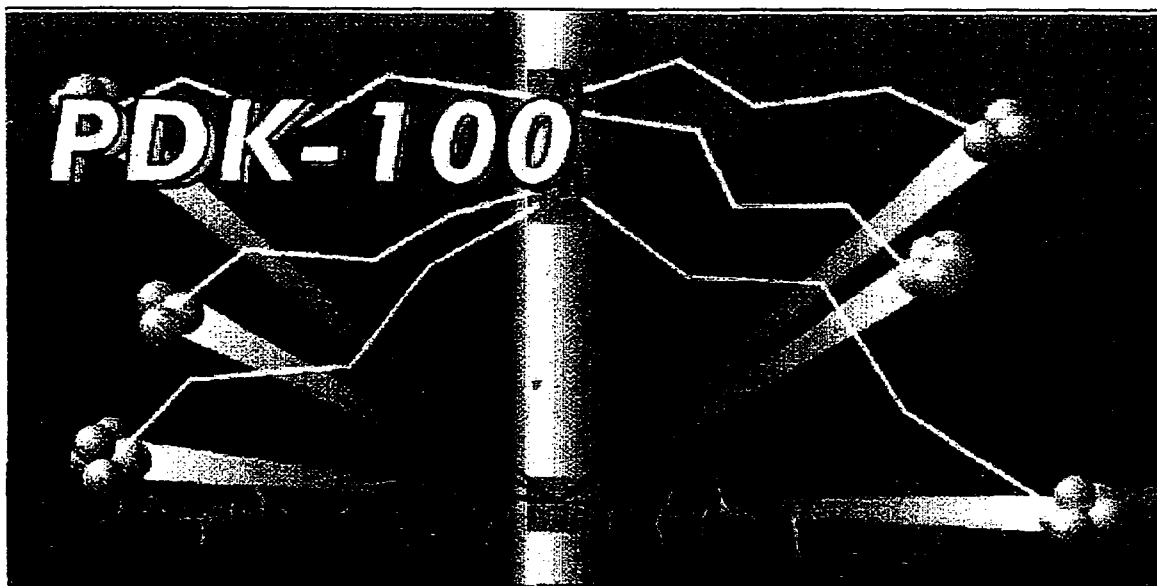
Alan

EXHIBIT

17



Baker Atlas
GEOScience



*PDK-100 LOG[®]
ANALYSIS
GAMMA RAY LOG*

DEPOSITION
EXHIBIT

20

COMPANY TMBR/SHARP DRILLING INC.

WELL BLUE FIN "24" #1

FIELD TOWNSEND (MORROW)

COUNTY LEA STATE NEW MEXICO

LOCATION:

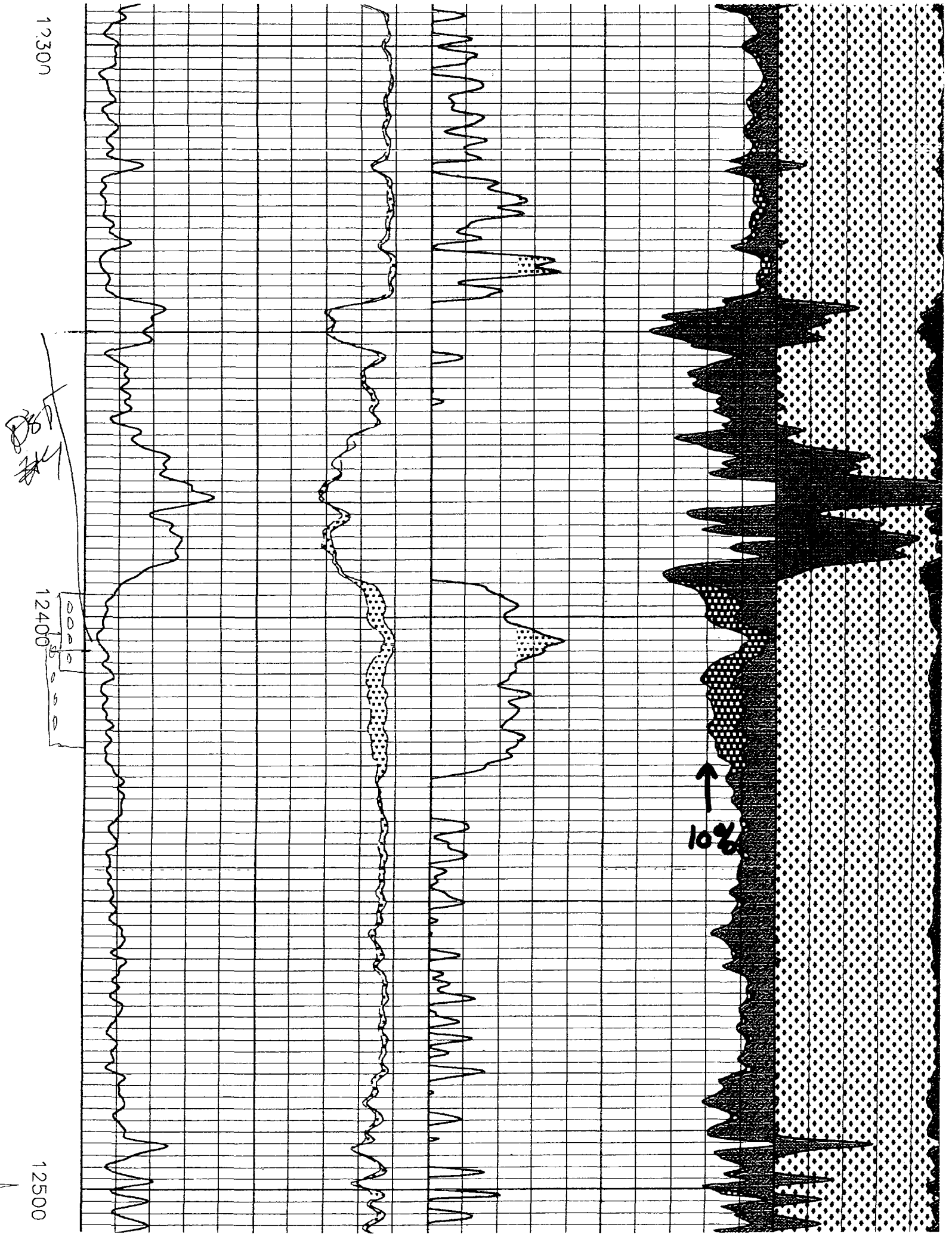
660 FWL & 750 FSL

SEC 24 TWP 16S RGE 35E

ELEVATIONS:

KB 3976 FT DF 3975 FT GL 3964 FT

DATE 29-MAY-2001 ECC 159



12300

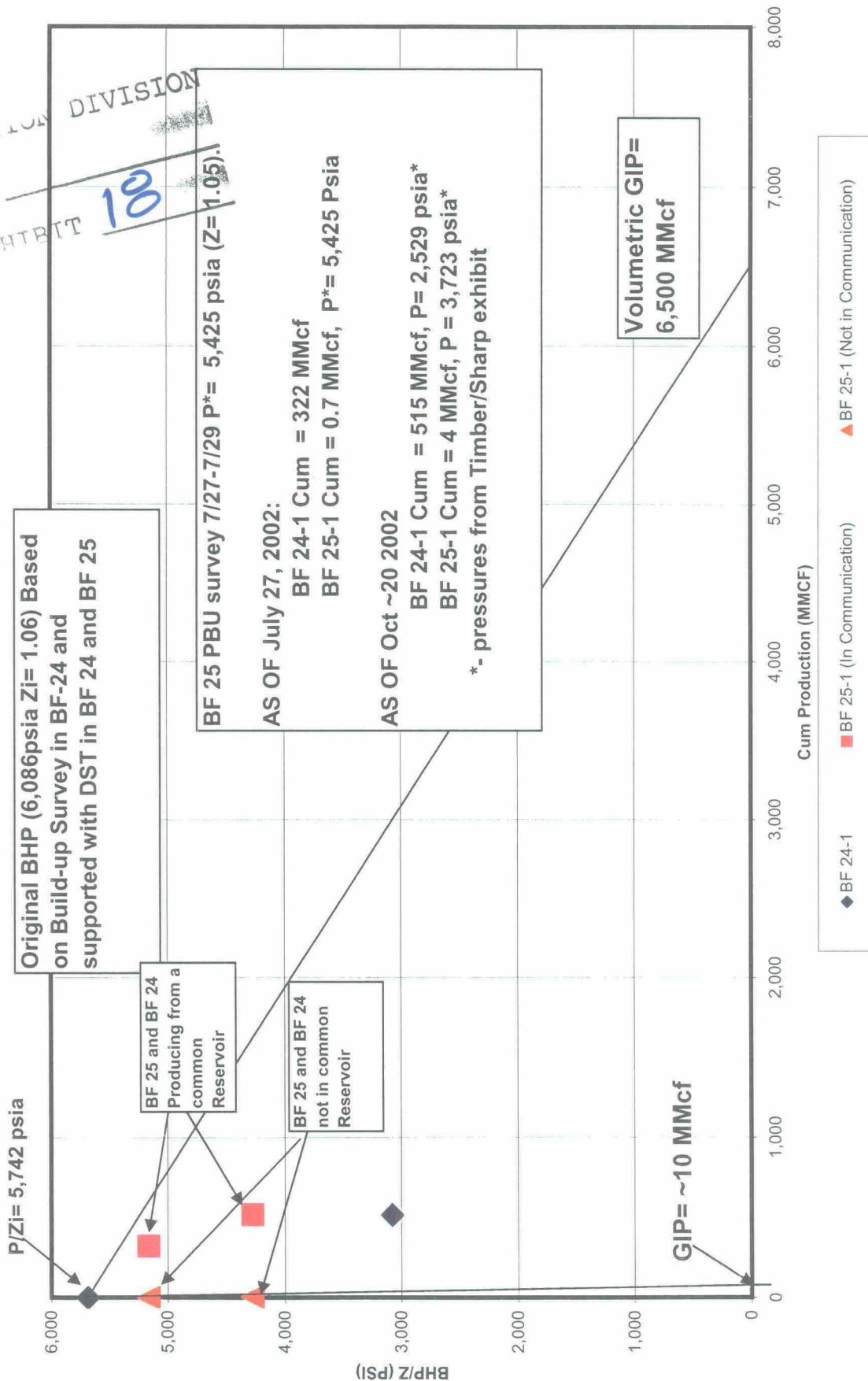
DB
ZK

12400

12500

OIL CONSERVATION DIVISION
CASE NUMBER
EXHIBIT 18

Austin Blue Fin 24 and Blue fin 25 Composite BHP/Z



Equations by Starling-Carnahan (Dake book, pp19-20). Wichert-Aziz correction for sour gases applied (accurate for 150-2000 psia, 0.001-0.999 mole % H₂S, CO₂<54.4% and H₂S<73.8%. See O&G Journal 10/18/93 pg. 52. Do not use initial pressures < 1500 psia. Required Input: Standard conditions, initial reservoir temp and pressure, and gas gravity OR gas composition (mole %). Mole percentage of C1 to C5+ also required for any Heating Value calculation. Current version of this worksheet does not allow for metric units.

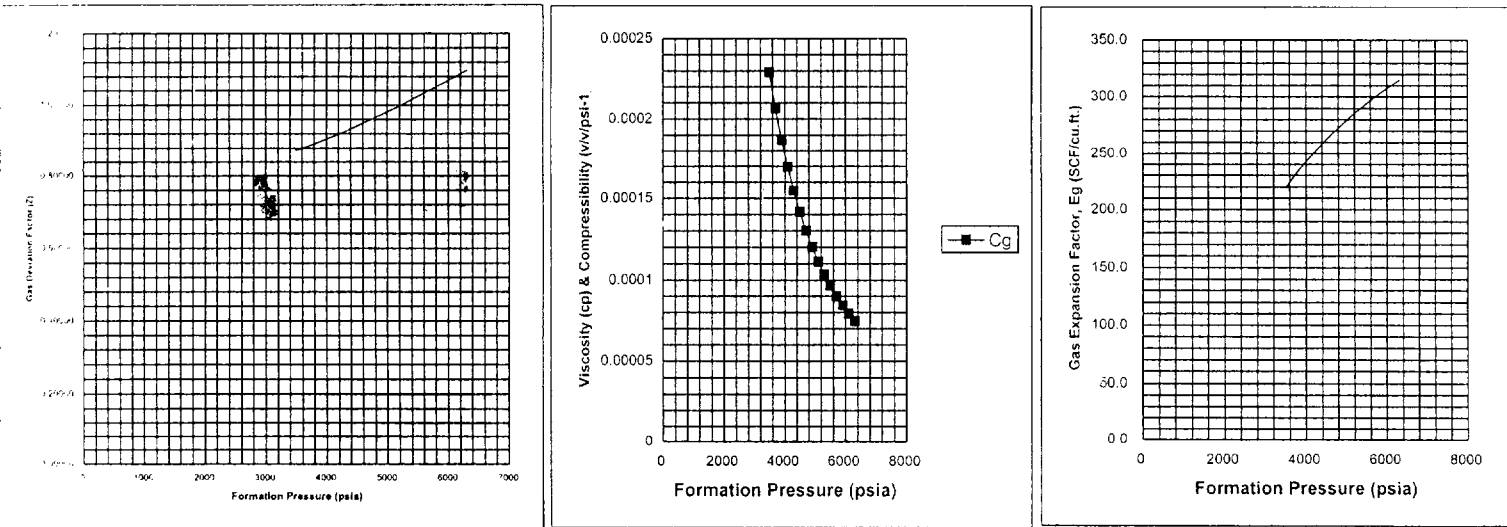
Field	Well:			
Input Data		Input Data		Computed Data
Gas grav, Gg (air=1) =	0.718	%C1 =	80.613	ghc (air=1) = 0.7107
Cond? (Yes=1,No=0)	0	%C2 =	10.249	ghc, degR = 392.6692
Metric? (Yes=1,No=0)	0	%C3 =	4.611	Ppch,psia = 668.7188
Reservoir Temperature =	186	%iC4 =	0.642	Tpc,degR = 392.2080
Reservoir Pressure =	6300	%nC4 =	1.325	Ppc, psia = 669.7349
Standard Pressure =	14.7	%C5+ =	1.057	CWA = 1.2272
Standard Temperature =	60	% N2 =	0.876	Ppc*, degR = 390.9808
		% CO2 =	0.635	Ppc*,psia = 667.6393
Computed Data		% H2S =	0.000	Init. Ppr = 9.4362
Res Temp, deg. F	186.0	Total %	100.008	Tpr = 1.6523
Res Pr, psia	6300.0	Calc'd Gg	0.7224	t=1/Tpr = 0.6052

WARNING: Z factor accurate for 0.2<Ppr<24.0 & 1.15<Tpr<3.0

Gas viscosity accurate for 100-8000 psi, 100-340 degF, 0.9<CO2 mole %<3.2.

Pr, psia	Ppr	Y	df/dY	Yk+1	Init. Y	Z	Eg	Gas Den,	Gas Visc	Cr=CgPpc	Cg	Bg	Bg
							SCF/cu.ft.	gm/cc	cp			(cu.ft./SCF)	(bbls/SCF)
6300	9.4362	0.00E+00	2.34090	0.26458	0.26458	1.09661	314.6	0.273467	0.031946	0.049881	7.471E-05	0.003179	0.000566
6100	9.1367	0.00E+00	2.24128	0.26056	0.26056	1.07819	309.8	0.269311	0.031358	0.052935	7.929E-05	0.003228	0.000575
5900	8.8371	0.00E+00	2.14268	0.25636	0.25636	1.05993	304.8	0.264967	0.030759	0.056317	8.435E-05	0.003281	0.000584
5700	8.5375	0.00E+00	2.04523	0.25196	0.25196	1.04188	299.6	0.260419	0.030148	0.060076	8.998E-05	0.003338	0.000595
5500	8.2380	-1.25E-16	1.94907	0.24734	0.24734	1.02408	294.1	0.255651	0.029524	0.064268	9.626E-05	0.003400	0.000606
5300	7.9384	2.50E-16	1.85435	0.24250	0.24250	1.00655	288.3	0.250644	0.028887	0.068961	0.0001033	0.003468	0.000618
5100	7.6389	0.00E+00	1.76127	0.23740	0.23740	0.98936	282.3	0.245376	0.028236	0.074235	0.0001112	0.003543	0.000631
4900	7.3393	0.00E+00	1.67004	0.23203	0.23203	0.97257	275.9	0.239825	0.027571	0.080184	0.0001201	0.003625	0.000646
4700	7.0397	-1.11E-16	1.58091	0.22636	0.22636	0.95623	269.1	0.233966	0.026892	0.086921	0.0001302	0.003715	0.000662
4500	6.7402	0.00E+00	1.49417	0.22037	0.22037	0.94044	262.0	0.227772	0.026198	0.094577	0.0001417	0.003816	0.000680
4300	6.4406	8.33E-17	1.41014	0.21402	0.21402	0.92529	254.5	0.221213	0.025491	0.103307	0.0001547	0.003930	0.000700
4100	6.1410	0.00E+00	1.32922	0.20730	0.20730	0.91088	246.5	0.214259	0.024769	0.113291	0.0001697	0.004057	0.000723
3900	5.8415	-2.01E-16	1.25183	0.20015	0.20015	0.89736	238.0	0.206878	0.024033	0.124736	0.0001868	0.004202	0.000748
3700	5.5419	-5.55E-17	1.17846	0.19257	0.19257	0.88488	229.0	0.199038	0.023286	0.137876	0.0002065	0.004367	0.000778
3500	5.2424	0.00E+00	1.10964	0.18451	0.18451	0.87359	219.4	0.190711	0.022528	0.152970	0.0002291	0.004558	0.000812
3300	4.9428	9.71E-17	1.04598	0.17596	0.17596	0.86371	209.2	0.181872	0.021763	0.168643	0.0002526	0.004780	0.000851
3200	4.7930	0.00E+00	1.01627	0.17149	0.17149	0.85935	203.9	0.177255	0.021379	0.178119	0.0002668	0.004904	0.000874
3100	4.6432	0.00E+00	0.98809	0.16690	0.16690	0.85542	198.4	0.172504	0.020994	0.188264	0.000282	0.005039	0.000898
3000	4.4934	0.00E+00	0.96151	0.16217	0.16217	0.85195	192.8	0.167620	0.020609	0.199116	0.0002982	0.005186	0.000924
2900	4.3437	-1.04E-16	0.93661	0.15732	0.15732	0.84896	187.1	0.162603	0.020226	0.210715	0.0003156	0.005346	0.000952
2800	4.1939	0.00E+00	0.91346	0.15234	0.15234	0.84648	181.1	0.157456	0.019844	0.223103	0.0003342	0.005521	0.000983
2700	4.0441	8.67E-17	0.89213	0.14724	0.14724	0.84453	175.1	0.152183	0.019464	0.236323	0.000354	0.005712	0.001017
2600	3.8943	0.00E+00	0.87270	0.14202	0.14202	0.84315	168.9	0.146787	0.019088	0.250419	0.0003751	0.005922	0.001055
2500	3.7445	0.00E+00	0.85520	0.13668	0.13668	0.84235	162.5	0.141276	0.018716	0.265443	0.0003976	0.006153	0.001096
2400	3.5948	-4.86E-17	0.83970	0.13125	0.13125	0.84214	156.1	0.135658	0.018350	0.281452	0.0004216	0.006408	0.001141
2300	3.4450	5.64E-17	0.82622	0.12572	0.12572	0.84255	149.5	0.129942	0.017989	0.298516	0.0004471	0.006690	0.001192
2200	3.2952	-1.99E-17	0.81478	0.12010	0.12010	0.84359	142.8	0.124139	0.017636	0.316719	0.0004744	0.007003	0.001247
2100	3.1454	-4.51E-17	0.80541	0.11442	0.11442	0.84527	136.0	0.118261	0.017292	0.336171	0.0005035	0.007351	0.001309
2000	2.9956	0.00E+00	0.79809	0.10867	0.10867	0.84758	129.2	0.112323	0.016956	0.357010	0.0005347	0.007739	0.001378
1900	2.8458	-4.47E-17	0.79280	0.10288	0.10288	0.85052	122.3	0.106337	0.016631	0.379417	0.0005683	0.008175	0.001456
1800	2.6961	4.34E-18	0.78953	0.09706	0.09706	0.85409	115.4	0.100320	0.016316	0.403624	0.0006046	0.008665	0.001543
1700	2.5463	3.64E-17	0.78822	0.09122	0.09122	0.85828	108.5	0.094284	0.016013	0.429936	0.000644	0.009220	0.001642
1600	2.3965	-3.04E-18	0.78883	0.08538	0.08538	0.86306	101.5	0.088246	0.015722	0.458747	0.0006871	0.009851	0.001755
1500	2.2467	0.00E+00	0.79130	0.07955	0.07955	0.86842	94.6	0.082220	0.015444	0.490577	0.0007348	0.010573	0.001883
1400	2.0969	3.40E-17	0.79555	0.07374	0.07374	0.87434	87.7	0.076220	0.015178	0.526103	0.000788	0.011405	0.002031
1300	1.9472	3.14E-18	0.80151	0.06797	0.06797	0.88078	80.8	0.070257	0.014926	0.566231	0.0008481	0.012373	0.002204
1200	1.7974	-8.67E-19	0.80911	0.06225	0.06225	0.88773	74.0	0.064346	0.014687	0.612174	0.0009169	0.013510	0.002406
1100	1.6476	-2.61E-17	0.81826	0.05659	0.05659	0.89515	67.3	0.058494	0.014462	0.665600	0.0009969	0.014861	0.002647
1000	1.4978	1.34E-17	0.82888	0.05100	0.05100	0.90302	60.6	0.052714	0.014250	0.728846	0.0010917	0.016491	0.002937
900	1.3480	4.04E-18	0.84090	0.04548	0.04548	0.91129	54.1	0.047011	0.014052	0.805294	0.0012062	0.018491	0.003294
800	1.1983	2.62E-18	0.85424	0.04005	0.04005	0.91996	47.6	0.041394	0.013868	0.900014	0.0013481	0.021000	0.003741
700	1.0485	-2.05E-18	0.86882	0.03470	0.03470	0.92898	41.3	0.035868	0.013697	1.020967	0.0015292	0.024236	0.004317
600	0.8987	-9.26E-18	0.88456	0.02945	0.02945	0.93833	35.0	0.030438	0.013540	1.181418	0.0017695	0.028559	0.005087
500	0.7489	-3.18E-19	0.90140	0.02429	0.02429	0.94798	28.9	0.025107	0.013397	1.404759	0.0021041	0.034624	0.006167
450	0.6740	7.54E-19	0.91022	0.02175	0.02175	0.95291	25.9	0.022479	0.013331	1.553700	0.0023272	0.038671	0.006888
400	0.5991	-1.06E-18	0.91928	0.01923	0.01923	0.95791	22.9	0.019877	0.013268	1.739681	0.0026057	0.043733	0.007790
350	0.5242	-1.19E-18	0.92859	0.01674	0.01674	0.96298	19.9	0.017301	0.013209	1.978601	0.0029636	0.050245	0.008950
300	0.4493	1.28E-19	0.93813	0.01427	0.01427	0.96810	17.0	0.014751	0.013154	2.296957	0.0034404	0.058931	0.010497
250	0.3745	-2.62E-18	0.94791	0.01183	0.01183	0.97329	14.1	0.012227	0.013103	2.742440	0.0041077	0.071096	0.012664
200	0.2996	-1.75E-19	0.95790	0.00941	0.00941	0.97853	11.2	0.009729	0.013056	3.410429	0.0051082	0.089349	0.015915
150	0.2247	-1.44E-19	0.96811	0.00702	0.00702	0.98382	8.3	0.007258	0.013014	4.523472	0.0067753	0.119776	0.021334
100	0.1498	3.11E-19	0.97854	0.00466	0.00466	0.98916	5.5	0.004812	0.012977	6.748917	0.0101086	0.180640	0.032175
95	0.1423	-5.80E-20	0.97959	0.00442	0.00442	0.98970	5.3	0.004569	0.012973	7.100333	0.010635	0.190251	0.033887
90	0.1348	2.07E-19	0.98065	0.00419	0.00419	0.99024	5.0	0.004326	0.012970	7.490792	0.0112198	0.200930	0.035789
85	0.1273	2.98E-20	0.98171	0.00395	0.00395	0.99078	4.7	0.004084	0.012967	7.927184	0.0118735	0.212865	0.037915
80	0.1198	-7.31E-20	0.98277	0.00372	0.00372	0.99132	4.4	0.003841	0.012964	8.418122	0.0126088	0.226292	0.040307
75	0.1123	-1.33E-19	0.98383	0.00348	0.00348	0.99185	4.1	0.003599	0.012961	8.974514	0.0134422	0.241509	0.043017
70	0.1048	7.81E-20	0.98489	0.00325	0.00325	0.99239	3.9	0.003358	0.012958	9.610386	0.0143946	0.258900	0.046115
65	0.0974	-2.85E-20	0.98596	0.00301	0.00301	0.99293	3.6	0.003116	0.012955	10.344081	0.0154935	0.278968	0.049689
60	0.0899	1.93E-19	0.98703	0.00278	0.00278	0.99348	3.3	0.002875	0.012952	11.200054	0.0167756	0.302379	0.053860
55	0.0824	1.78E-19	0.98810	0.00255	0.00255	0.99402	3.0	0.002634	0.012949	12.211875	0.0182911	0.330048	0.058788
15	0.0225	5.74E-21	0.99673	0.00069	0.00069	0.99836	0.8	0.000715	0.012931	0.000000	0	1.215468	0.216498

Note: Last pressure included so that Cr and Cg values are not zero. It is not plotted.



COMMISSION

OIL CONSERVATION

CASE NUMBER

Ocean

EXHIBIT

20

Equations by Stirling-Carnahan (Dake book, pp19-20). Wichert-Aziz correction for sour gases applied (accurate for 15-70% CO2<54.4% and H2S<73.8%. See O&G Journal 10/18/93 pg. 52. Do not use initial pressures < 1500 psia
Required Input: Standard conditions, initial reservoir temp and pressure, and gas gravity OR gas composition (mole %
Mole percentage of C1 to C5+ also required for any Heating Value calculation.
Current version of this worksheet does not allow for metric units.

Field:	Well:
Input Data	Input Data
Gas grav. Gg (air=1) = 0.710	%C1 = 80.613
Cond? (Yes=1,No=0) 0	%C2 = 10.249
Metric? (Yes=1,No=0) 0	%C3 = 4.611
Reservoir Temperature = 163	%iC4 = 0.642
Reservoir Pressure = 6300	%nC4 = 1.325
Standard Pressure = 14.7	%C5+ = 1.057
Standard Temperature = 60	% N2 = 0.876
	% CO2 = 0.635
	% H2S = 0.000
Computed Data	Computed Data
Res Temp, deg. F 163.0	Total % 100.008
Res Pr. psia 6300.0	Calc'd Gg 0.7224
	Init. Ppr = 9.4320
	Tpr = 1.6038
	t=1/Tpr = 0.6235

WARNING: Z factor accurate for 0.2<Ppr<24.0 & 1.15<Tpr<3.0

Gas viscosity accurate for 100-8000 psi, 100-340 degF, 0.9<CO2 mole %<3.2.

Pr. psia	Ppr	Y	df/dY	Yk+1	Init. Y	Z	Eg	Gas Den.	Gas Visc	Cr=CgPpc	Cg	Bg	Bg
							SCF/cu.ft.	gm/cc	cp.			(cu.ft./SCF)	(bbls/SCF)
6300	9.4320	#####	2.47887	0.27766	0.27766	1.09445	326.8	0.280796	0.032696	0.047018	7.039E-05	0.003060	0.000545
6100	9.1326	#####	2.37066	0.27368	0.27368	1.07511	322.2	0.276772	0.032099	0.049911	7.472E-05	0.003104	0.000553
5900	8.8332	#####	2.26343	0.26952	0.26952	1.05593	317.3	0.272561	0.031489	0.053122	7.953E-05	0.003152	0.000561
5700	8.5337	#####	2.15730	0.26515	0.26515	1.03693	312.1	0.268146	0.030865	0.056697	8.488E-05	0.003204	0.000571
5500	8.2343	#####	2.05243	0.26057	0.26057	1.01815	306.7	0.263510	0.030227	0.060695	9.087E-05	0.003260	0.000581
5300	7.9349	#####	1.94897	0.25574	0.25574	0.99963	301.0	0.258632	0.029573	0.065185	9.759E-05	0.003322	0.000592
5100	7.6355	#####	1.84711	0.25066	0.25066	0.98142	295.1	0.253490	0.028904	0.070247	0.0001052	0.003389	0.000604
4900	7.3360	#####	1.74708	0.24529	0.24529	0.96357	288.7	0.248059	0.028219	0.075982	0.0001138	0.003463	0.000617
4700	7.0366	#####	1.64914	0.23961	0.23961	0.94617	282.1	0.242312	0.027517	0.082505	0.0001235	0.003545	0.000632
4500	6.7372	#####	1.55358	0.23358	0.23358	0.92928	275.0	0.236217	0.026797	0.089959	0.0001347	0.003637	0.000648
4300	6.4377	#####	1.46075	0.22718	0.22718	0.91301	267.4	0.229741	0.026060	0.098511	0.0001475	0.003739	0.000666
4100	6.1383	#####	1.37108	0.22036	0.22036	0.89748	259.4	0.222847	0.025305	0.108359	0.0001622	0.003855	0.000687
3900	5.8389	#####	1.28501	0.21309	0.21309	0.88282	250.8	0.215496	0.024532	0.119738	0.0001793	0.003987	0.000710
3700	5.5395	#####	1.20311	0.20533	0.20533	0.86919	241.7	0.207649	0.023743	0.132915	0.000199	0.004137	0.000737
3500	5.2400	#####	1.12599	0.19704	0.19704	0.85680	231.9	0.199265	0.022938	0.148193	0.0002219	0.004311	0.000768
3300	4.9406	#####	1.05433	0.18818	0.18818	0.84586	221.5	0.190309	0.022121	0.164100	0.0002457	0.004514	0.000804
3200	4.7909	#####	1.02078	0.18353	0.18353	0.84101	216.0	0.185606	0.021708	0.173828	0.0002602	0.004629	0.000824
3100	4.6412	#####	0.98887	0.17873	0.17873	0.83662	210.4	0.180751	0.021294	0.184290	0.0002759	0.004753	0.000847
3000	4.4914	#####	0.95872	0.17378	0.17378	0.83271	204.6	0.175740	0.020879	0.195531	0.0002927	0.004889	0.000871
2900	4.3417	#####	0.93041	0.16867	0.16867	0.82933	198.5	0.170575	0.020463	0.207596	0.0003108	0.005037	0.000897
2800	4.1920	#####	0.90404	0.16341	0.16341	0.82651	192.4	0.165255	0.020049	0.220527	0.0003302	0.005199	0.000926
2700	4.0423	#####	0.87970	0.15800	0.15800	0.82428	186.0	0.159784	0.019635	0.234369	0.0003509	0.005377	0.000958
2600	3.8926	#####	0.85748	0.15245	0.15245	0.82267	179.4	0.154167	0.019225	0.249163	0.000373	0.005573	0.000993
2500	3.7429	#####	0.83744	0.14675	0.14675	0.82172	172.7	0.148409	0.018818	0.264954	0.0003967	0.005789	0.001031
2400	3.5932	#####	0.81967	0.14093	0.14093	0.82145	165.9	0.142520	0.018416	0.281790	0.0004219	0.006028	0.001074
2300	3.4434	#####	0.80420	0.13499	0.13499	0.82188	158.9	0.136510	0.018020	0.299729	0.0004487	0.006293	0.001121
2200	3.2937	#####	0.79108	0.12894	0.12894	0.82302	151.8	0.130393	0.017632	0.318840	0.0004774	0.006589	0.001174
2100	3.1440	#####	0.78032	0.12280	0.12280	0.82490	144.5	0.124183	0.017253	0.339214	0.0005079	0.006918	0.001232
2000	2.9943	#####	0.77193	0.11658	0.11658	0.82751	137.2	0.117896	0.016884	0.360970	0.0005404	0.007287	0.001298
1900	2.8446	#####	0.76588	0.11030	0.11030	0.83086	129.8	0.111551	0.016525	0.384269	0.0005753	0.007702	0.001372
1800	2.6949	#####	0.76216	0.10399	0.10399	0.83493	122.4	0.105164	0.016179	0.409326	0.0006128	0.008169	0.001455
1700	2.5452	#####	0.76070	0.09765	0.09765	0.83971	115.0	0.098756	0.015846	0.436430	0.0006534	0.008699	0.001550
1600	2.3954	#####	0.76144	0.09131	0.09131	0.84518	107.5	0.092345	0.015527	0.465962	0.0006976	0.009303	0.001657
1500	2.2457	#####	0.76432	0.08499	0.08499	0.85132	100.0	0.085950	0.015222	0.498429	0.0007462	0.009995	0.001780
1400	2.0960	#####	0.76924	0.07870	0.07870	0.85809	92.6	0.079586	0.014933	0.534506	0.0008002	0.010795	0.001923
1300	1.9463	#####	0.77611	0.07245	0.07245	0.86547	85.3	0.073272	0.014658	0.575094	0.000861	0.011725	0.002088
1200	1.7966	#####	0.78484	0.06627	0.06627	0.87341	78.0	0.067021	0.014399	0.621408	0.0009303	0.012819	0.002283
1100	1.6469	#####	0.79532	0.06017	0.06017	0.88188	70.8	0.060845	0.014155	0.675119	0.0010108	0.014120	0.002515
1000	1.4971	#####	0.80747	0.05415	0.05415	0.89085	63.7	0.054757	0.013927	0.738570	0.0011057	0.015689	0.002795
900	1.3474	#####	0.82116	0.04822	0.04822	0.90027	56.8	0.048766	0.013714	0.815151	0.0012204	0.017617	0.003138
800	1.1977	#####	0.83633	0.04240	0.04240	0.91011	49.9	0.042879	0.013516	0.909942	0.0013623	0.020036	0.003569
700	1.0480	#####	0.85285	0.03669	0.03669	0.92033	43.2	0.037102	0.013333	1.030915	0.0015434	0.023155	0.004124
600	0.8983	#####	0.87066	0.03109	0.03109	0.93090	36.6	0.031441	0.013166	1.191349	0.0017836	0.027325	0.004867
500	0.7486	#####	0.88966	0.02561	0.02561	0.94179	30.1	0.025898	0.013013	1.414642	0.0021179	0.033173	0.005909
450	0.6737	#####	0.89959	0.02291	0.02291	0.94734	27.0	0.023171	0.012943	1.563570	0.0023409	0.037076	0.006604
400	0.5989	#####	0.90978	0.02025	0.02025	0.95296	23.8	0.020475	0.012876	1.749546	0.0026193	0.041958	0.007474
350	0.5240	#####	0.92023	0.01761	0.01761	0.95865	20.7	0.017810	0.012814	1.988476	0.002977	0.048238	0.008592
300	0.4491	#####	0.93094	0.01500	0.01500	0.96440	17.7	0.015174	0.012755	2.306869	0.0034537	0.056616	0.010084
250	0.3743	#####	0.94189	0.01243	0.01243	0.97020	14.6	0.012570	0.012701	2.752438	0.0041208	0.068348	0.012174
200	0.2994	#####	0.95307	0.00988	0.00988	0.97606	11.6	0.009995	0.012651	3.420605	0.0051212	0.085951	0.015309
150	0.2246	#####	0.96448	0.00737	0.00737	0.98197	8.7	0.007451	0.012606	4.534019	0.0067881	0.115295	0.020536
100	0.1497	#####	0.97611	0.00488	0.00488	0.98794	5.7	0.004938	0.012567	6.760338	0.0101212	0.173993	0.030991
95	0.1422	#####	0.97728	0.00464	0.00464	0.98854	5.5	0.004688	0.012564	7.111898	0.0106476	0.183261	0.032642
90	0.1347	#####	0.97846	0.00439	0.00439	0.98914	5.2	0.004438	0.012560	7.502517	0.0112324	0.193560	0.034477
85	0.1273	#####	0.97964	0.00414	0.00414	0.98973	4.9	0.004189	0.012557	7.939090	0.011886	0.205070	0.036527
80	0.1198	#####	0.98082	0.00390	0.00390	0.99034	4.6	0.003941	0.012553	8.430233	0.0126213	0.218019	0.038833
75	0.1123	#####	0.98200	0.00365	0.00365	0.99094	4.3	0.003692	0.012550	8.986859	0.0134547	0.232695	0.041447
70	0.1048	#####	0.98319	0.00341	0.00341	0.99154	4.0	0.003444	0.012547	9.623001	0.0144071	0.249467	0.044435
65	0.0973	#####	0.98438	0.00316	0.00316	0.99214	3.7	0.003196	0.012544	10.357009	0.015506	0.268820	0.047882
60	0.0898	#####	0.98557	0.00292	0.00292	0.99274	3.4	0.002948	0.012541	11.213349	0.0167881	0.291398	0.051904
55	0.0823	#####	0.98676	0.00267	0.00267	0.99334	3.1	0.002701	0.012538	12.225592	0.0183035	0.318082	0.056656
15	0.0225	#####	0.99636	0.00072	0.00072	0.99818	0.9	0.000733	0.012518	0.000000	0	1.171978	0.208752

Note: Last pressure included so that Cr and Cg values are not zero. It is not plotted.

