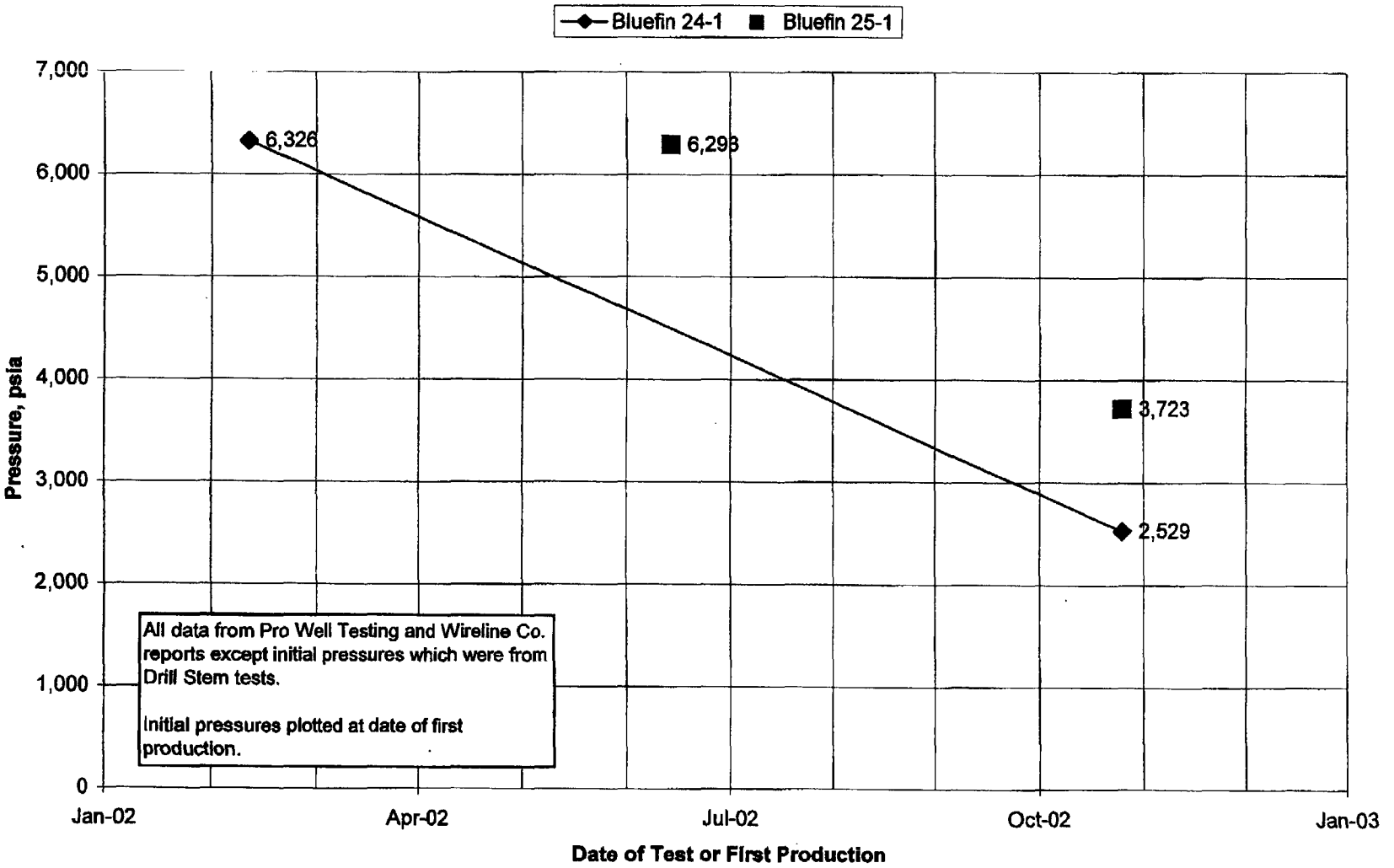
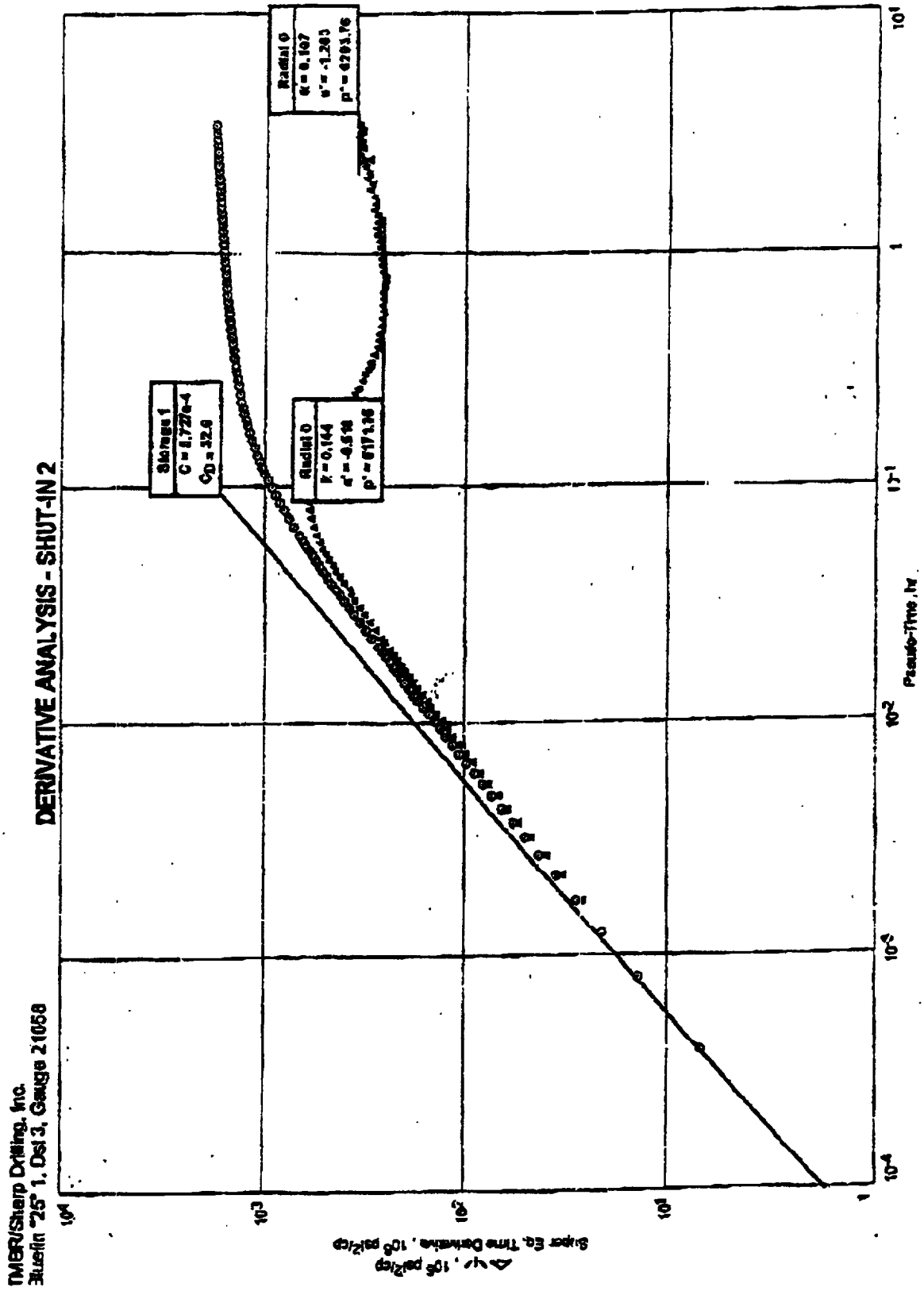
Comparative Pressure History



BEFORE THE
OIL CONSERVATION COMMISSION
Case No. 12816 Exhibit No. 35
Submitted By:
TMBR/Sharp Drilling
Hearing Date: March 20, 2003


DERIVATIVE ANALYSIS - SHUT-IN 2
TMBR/Sharp Drilling, Inc.
Austin "25" 1, Dst 3, Gauge 21058
Storage 1
C = 1.727e-4
CD = 32.6
Radial 0
k = 0.144
s' = -6.518
p' = 617.136
Radial 0
k = 0.107
s' = -1.283
p' = 6291.76
Pseudo-Time, hr
Δp', 10^5 psi²/cp
Super Eq. Time Derivative, 10^5 psi²/cp

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.

12
6294

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

DRS

PRO WELL TESTING & WIRELINE

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

October 27, 2002

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

Mr. Arnold,

I have analyzed the data from the 118 hour build up that was run on the **Bluefin 25 #1** in Lea County, New Mexico from October 21, 2002 through October 26, 2002. The data modeled as a **Homogeneous Reservoir with well bore storage and skin.** The data did show more than one zone and cross-flow, but I just ignored this indication and matched the data as well as I could.

The third 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 **74 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 **1731 effective hours** of production. The pressure that the model generated was **3722.73 psia,** the permeability was **0.0254 md.,** and the **formation skin was a –1.89** and the radius of investigation was **65.3 feet.**

The fourth page is the simulation page. This page matches the model in red against the data in green. The model does not really match the data very well. It should be noted that I was matching an average thru the data. The model does deviate from the data though when the different zones and 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.

PRO WELL TESTING & WIRELINE

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Hobbs, New Mexico 88241
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October 27, 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 Uniform Flux Frac with no boundaries.**

The third 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 **2200 mcf/day** of gas. The net interval that I used was **14 feet** interval with an average **porosity of 10%.** The flow time that I used was **4944 hours** of production. The pressure that the model generated **was 2528.76 psia**, the permeability was **1.6 md.**, and the **fracture half-length was 650 feet. The radius of investigation was 320 feet.**

The fourth 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.

The fifth 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 2462.76 psia,** a **permeability of 2.44 md. and a skin of –5.52.** These numbers are fairly close to the Log-Log numbers and are a good comparison.

TMBR/SHARP DRILLING, INC.
Blue Fin "24 No. 1
660' FWL & 760' FSL
Sec. 24, T-16S, R-35E
Lea County, NM

05/16/01 (Day 47) 12,406' (0') Lm, Sh PO: LD DST tools.
MW 9.7, Vis 45, pH 10. Bit #12RR SN M98737 Size 7⅞" Type F47H, In 12406'. Time Breakdown: 2¾ hrs TOH. 1 hr PU tools. 5¼ hrs TIH w/DST #4. ¼ hr PU valves for IF. 6¼ hrs DST #4. 1½ hrs Back off, TOH 20 stds. 1 hr Reverse out. 5 hrs TOH w/DST #4. 1 hr Break down tools.

DST #4, 12,350-12,406' (56') CHESTER

IH		6550 psi	
IF	15 min	934-788 psi	Open w/strong blow, ½" ck @ 3 min w/45 psi, GTS @ 5 min w/95 psi, 10 min 155 psi, 15 min 182 psi = 1.2 MMCF/D.
ISI	60 min	6112 psi	
FF	60 min	788-664 psi	Open w/strong blow, ½" ck @ 3 min w/70 psi, 5 min 90 psi, 10 min 154 psi, 20 min 163 psi, max rate 166 psi @ 30 min = 1.1 MMCF/D, 40 min 163 psi, 50 min 158 psi, 60 min 153 psi = 1.04 MMCF/D
FSI	240 min	6311 psi = 6326 psia	
FH		6550 psi	

Recovery: Est 250' gas & mud cut distillate.
Sampler Chamber: 6000 cc, 600 psi, 1.395 cu.ft. gas, no fluid recovery, BHT 190° @ 12,332'.

05/17/01 (Day 48) 12,457' (51') Sh, Cht. PO: Drlg.
MW 9.8, Vis 54, pH 10, WL 9. Bit #12RR SN M98737 Size 7⅞" Type F47H, In 12406, made 51' in 2¾ hrs. Time Breakdown: 2 hrs TIH w/bit & BHA. 1 hr Cut 110' drlg line. 6 hrs TIH w/bit #12RR. ½ hr TIH. 5½ hrs Circ gas & cond mud. ½ hr Drlg 12,406-12,428'. 2¼ hrs Circ samples, 490 units gas. 2¾ hrs Drlg 12,428-12,453'. 4 hrs Check for flow, circ gas, build volume. ½ hr Drlg 12,453-12,457'.

05/18/01 (Day 49) 12,665' (208') Sh. PO: Drlg.
MW 9.9, Vis 56, pH 10, WL 9. Bit #12RR SN M98737 Size 7⅞" Type F47H, In 12406, made 259' in 22¾ hrs. Time Breakdown: 3 hrs Drlg 12,453-12,499'. 1 hr Survey @ 12,459' 1°. 15 hrs Drlg 12,499-12,654'. 3½ hrs SI & circ thru ck & built wt up to 10.1, had 20-25' flare, well was blowing mud up 5-10' above floor during connection, change rotating head rubber, wt dropped to 9.2 coming out, now is 9.9+ out. 1½ hrs Drlg 12,654-12,665', 10-15' flare.

05/19/01 (Day 50) 12,687' (22') Sh. PO: Logging.
MW 10, Vis 49, pH 10, WL 10.8, FC 2/32, Chl 1400. Bit #12RR SN M98737 Size 7⅞" Type F47H, In 12406, Out 12,687', made 281' in 24¾ hrs. Time Breakdown: 2 hrs Drlg 12,665-12,637'. ¾ hr Change rotating rubber. 2¼ hrs WOO. 7 hrs Circ & cond mud. 1 hr Pump sweep. 2 hrs TOH w/45 stds. ½ hr Check for flow. 6 hrs Finish TOH for logs. 1 hr RU loggers. 1½ hrs Log.

05/20/01 (Day 51) 12,687' (0') Sh. PO: Circ.
MW 9.8, Vis 49, pH 10. Time Breakdown: 5 hrs Log. 1½ hrs RD loggers. 2 hrs TIH w/DC & cut drlg line. 3 hrs TIH. ½ hr Circ. 1 hr TIH. ½ hr Circ. 1 hr TIH. ½ hr Circ. 1½ hrs TIH. ½ hr Circ. 1 hr TIH. 6 hrs Circ & cond mud.

05/21/01 (Day 52) 12,678' (0') PO: Run csg.
MW 10, Vis 49, pH 10. Time Breakdown: 3 hrs Circ. 13½ hrs LDDP & DC's. 1 hr Change rams. 5 hrs Run 109 jts 5½" csg. 1½ hrs Wait for wind to die. Wind blowing blocks up against derrick.