

**BAKER**
OIL TOOLSCOMPANY
LEASE NAME & NO.
INTERVAL TESTED
DAVID H. ARRINGTON OIL & GAS, INC.
PRINCE NYMPH #1
10796' - 10835'COUNTY
STATE
FORMATION
LEA
NEW MEXICO
WOLFCAMPDATE
TICKET #
TEST #
03-01-1999
201589
1

Contractor	Patterson Drilling	Surface Choke	1/8"	Mud Type	
Rig No.	48	Bottom Choke	3/4"	Weight	8.9
Spot	2308' FSL & 943' FEL	Hole Size	7 7/8"	Viscosity	36
Sec	29	Core Hole Size	--	Water Loss	
Twp.	15 S	DP Size & Wt.	4 1/2" 20.00	Filter Cake	
Rng.	39 E	Wt. Pipe	--	Resistivity	@ °F
Field	Wildcat	I.D. of DC	2 1/4"		Ppm. °F
County	Lea	Length of DC	715'	B.H.T.	156.2
State	New Mexico	Total Depth	10835'	Co. Rep.	Steve Scott
Elevation	3920' KB	Type Test	Conventional	Tester	Mike Fraley
Formation	Wolfcamp	Interval	10796' - 10835'	Baker Dist.	Hobbs NM

Pipe Recovery

113' Slightly gas cut mud = 0.55 bbl.

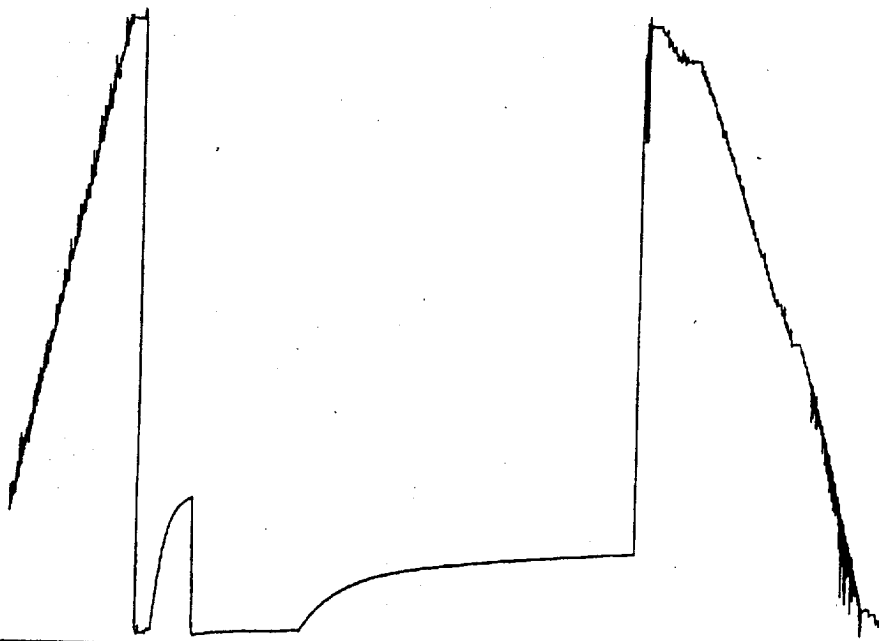
Top: 10,000 ppm Cl.
Middle: 11,000 ppm Cl.
Bottom: 13,000 ppm Cl.

Pressure in Sampler:	160	psig
Total Volume of Sampler:	2600	cc.
Total Volume of Sample:	2100	cc.
Oil:	500	cc.
Water:	200 (27000 ppm Cl	cc.
Mud:	1000 (13000 ppm Cl	cc.
Gas:	0.25	cu ft
Other:	400 Emulsion	

Gas/Oil Ratio 80/1 cu.-ft./bbl.
Gravity 42.0 °API @ 60 °FRecorder Type Electronic
No. 21047 Cap. 10000 psi
Depth 10801 ft.
Inside
Outside X

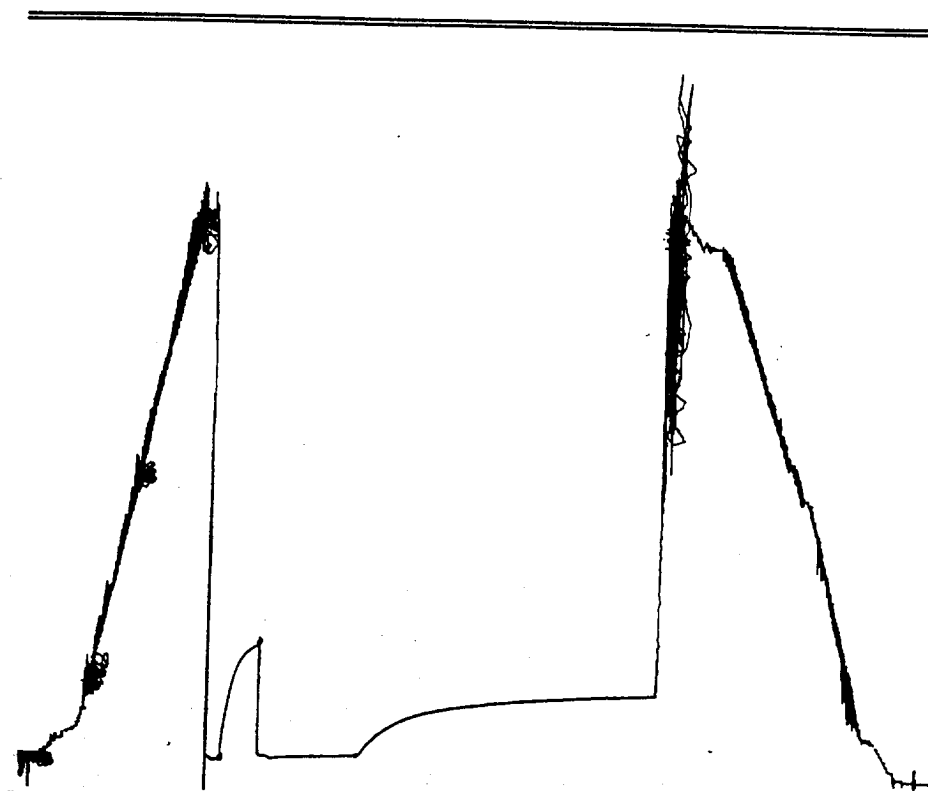
Initial Hydrostatic	A	5004
Final Hydrostatic	K	5013
Initial Flow	B	64
Final Initial Flow	C	105
Initial Shut-in	D	1158
Second Initial Flow	E	61
Second Final Flow	F	120
Second Shut-in	G	772
Third Initial Flow	H	
Third Final Flow	I	
Third Shut-in	J	

	Reported	Corrected	
Opened Tool @	17:58		hrs.
Flow No. 1	15	17	min.
Shut-in No. 1	45	45	min.
Flow No. 2	120	119	min.
Shut-in No. 2	360	360	min.
Flow No. 3			min.
Shut-in No. 3			min.



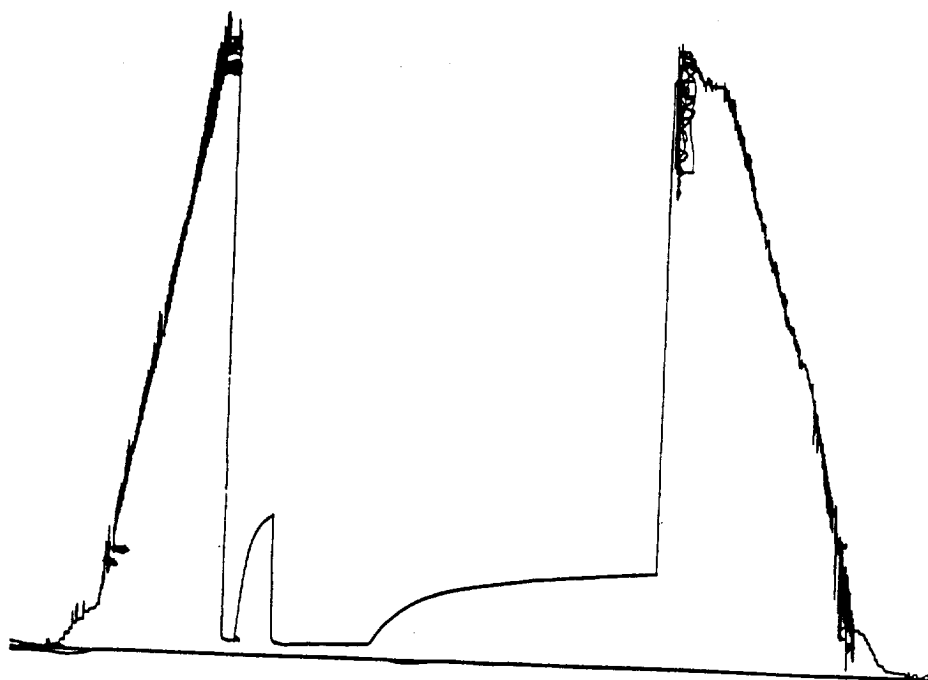
David H. Arrington Oil & Gas, Inc.
 Prince Nymph #1
 DST #1

03-01-1999



Recorder Type	Mechanical		
No. 21680	Cap.	7500	psi
Depth		10770	feet
Inside	x		
Outside			

Initial Hydrostatic	4976
Final Hydrostatic	4983
Initial Flow	62
Final Initial Flow	92
Initial Shut-In	1155
Second Initial Flow	101
Second Final Flow	116
Second Shut-In	763
Third Initial Flow	
Third Final Flow	
Third Shut-In	



Recorder Type	Mechanical		
No. 16833	Cap.	6850	psi
Depth		10801	feet
Inside			
Outside	x		

Initial Hydrostatic	5004
Final Hydrostatic	5015
Initial Flow	119
Final Initial Flow	116
Initial Shut-In	1157
Second Initial Flow	129
Second Final Flow	128
Second Shut-In	773
Third Initial Flow	
Third Final Flow	
Third Shut-In	



David H. Arrington Oil & Gas, Inc.
Prince Nymph #1
DST #1

03-01-1999

[illegible]



David H. Arrington Oil & Gas, Inc.
Prince Nymph #1
DST #1

03-01-1999

This analysis has been made on the basis of the liquid recovery and equations applicable to liquid recovery tests, the Homer extrapolation method and comparative log/log analysis. A composite model was used for non-linear regression analysis.

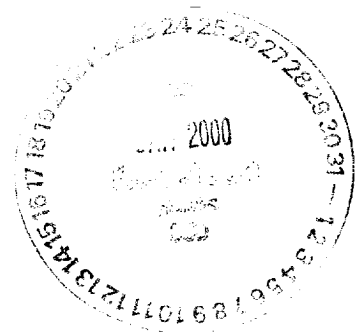
The semi-log plot indicates a maximum initial reservoir pressure of 1341 psi and a maximum final reservoir pressure of 827 psi which is equivalent to a subsurface pressure gradient of 0.077 psi/ft at gauge depth. The difference between the extrapolated initial and final reservoir pressures (514 psi) may be indicating the tested reservoir is of limited areal extent. The character of the build-up curves on the diagnostic plot indicates the presence of a barrier or boundary within the radius of investigation which is indicated to be approximately 3 feet.

The Average Production Rate which was used in this analysis has been calculated from analysis of the flow pressure curves using a liquid gradient for the recovered oil of 0.353 psi/ft.

For purposes of this analysis a Pay Thickness of 39 feet and an Average Porosity of 6% has been used.

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 within reasonable limits relative to the assumptions which have been made.



Oil Well Test - Buildup

Radial Flow Analysis



DAVID H ARRINGTON OIL & GAS INC
PRINCE NYMPH 1, DST 1

Analysis Results

Total Sandface Rate ($q_t B_t$)	19.538 bbl/d	Apparent Skin (s')	-0.885
Semilog Slope (m)	648.85	Skin - Damage	-0.885
Gas Permeability (k_g)	0.001 md	Skin - Inclination	0.000
Oil Permeability (k_o)	0.033 md	Pressure Drop Due to Skin (Δp_s)	psi
Flow Capacity (kh)	1.305 md.ft	Damage Ratio (DR)	0.676
Total Mobility (k/μ_t)	0.13 md/cp	Flow Efficiency (FE)	1.480
Total Transmissivity (kh/ μ_t)	4.90 md.ft/cp		

Reservoir Parameters

Net Pay (h)	39.000 ft
Total Porosity (ϕ_t)	6.00 %
Water Saturation (S_w)	20.00 %
Oil Saturation (S_o)	80.00 %
Gas Saturation (S_g)	0.00 %
Wellbore Radius (r_w)	0.33 ft
Formation Temperature (T)	156.2 °F
Formation Compressibility (c_f)	6.010e-6 psi ⁻¹
Total Compressibility (c_t)	3.427e-4 psi ⁻¹

Pressures

Initial Pressure (p_i)	1158.26 psi
Extrapolated Pressure (p^*)	826.62 psi
Ave. Reservoir Press	826.62 psi
Final Flowing Pressure (p_{wfo})	119.85 psi

Production and Times

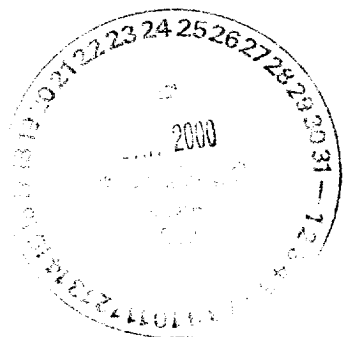
Corrected Flow Time (t_c)	2.2583 hr
Cumulative Oil Production	0.546 bbl
Final Oil Rate	5.800 bbl/d

Fluid Properties

Oil Compressibility (c_o)	4.20120e-4 psi ⁻¹
Oil Formation Volume Factor (B_o)	1.190
Oil Viscosity (μ_o)	0.755 cp
Solution Gas Ratio (R_s)	256 scf/bbl
Oil Gravity (γ_o)	42.00 ° API
Gas Gravity (G)	0.650
PVT Reference Pressure (p_{pVT})	1158.26 psi

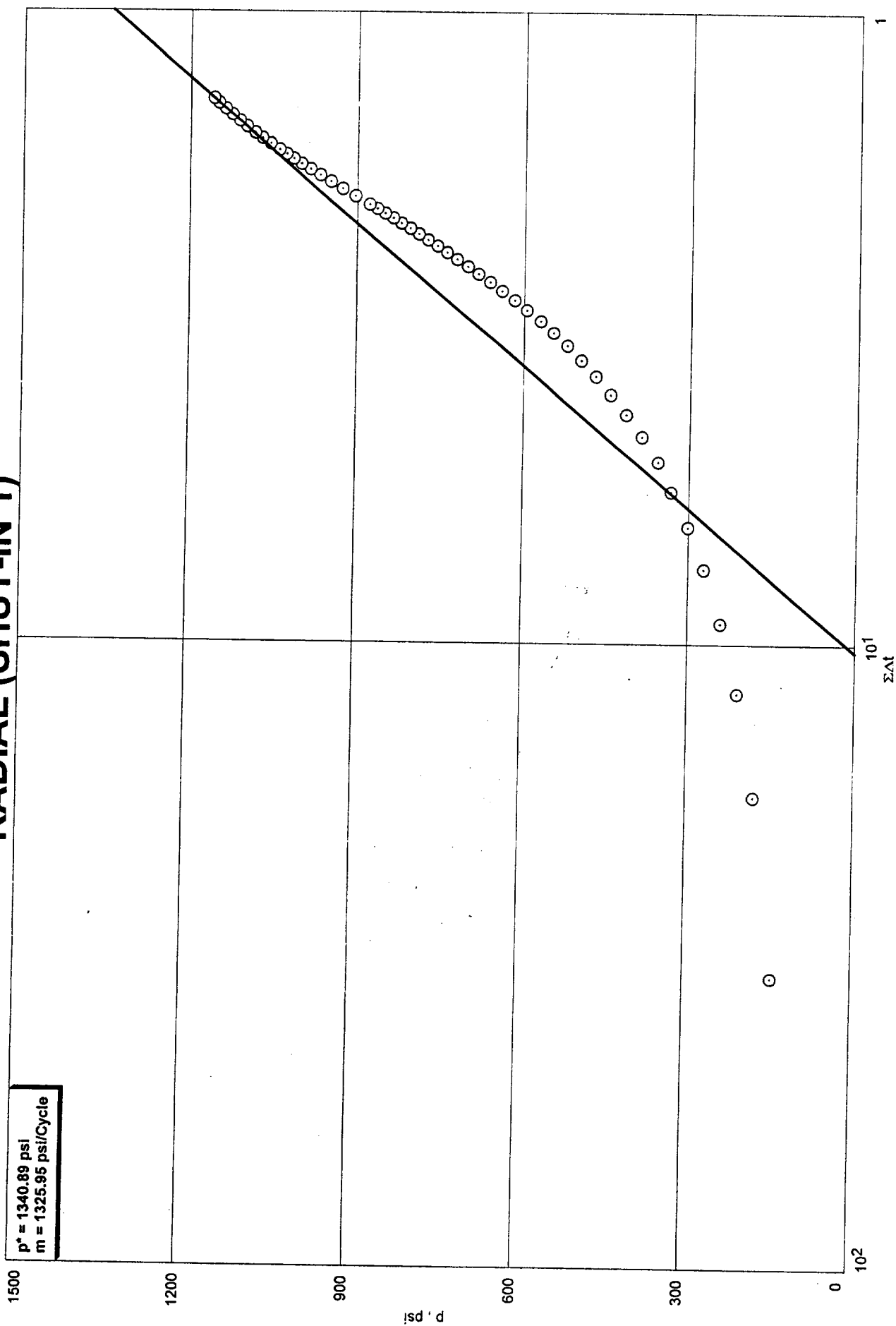
Extended Rates Calculations

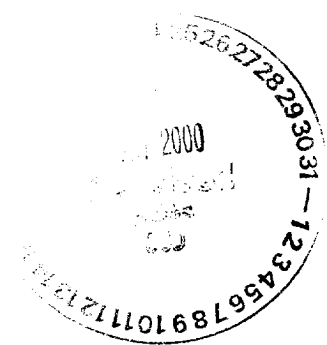
Specified Flowing Pressure	119.85 psi
Specified Reservoir Pressure	826.62 psi
Drainage Area	160.0 acres
3 - Month Constant Rate	1.543 bbl/d
6 - Month Constant Rate	1.438 bbl/d
Stabilized Rate @ Current Skin	0.982 bbl/d
Stabilized Rate @ Skin of 0	bbl/d
Stabilized Rate @ Skin of -4	1.695 bbl/d
PI / II (Total Actual)	0.008 bbl/d/psi
PI / II (Total Ideal)	0.005 bbl/d/psi
Stab. PI / II (Total Actual)	0.001 bbl/d/psi
Stab. PI / II (Total Ideal)	0.001 bbl/d/psi



DAVID H ARRINGTON OIL & GAS INC
PRINCE NYMPH 1, DST 1

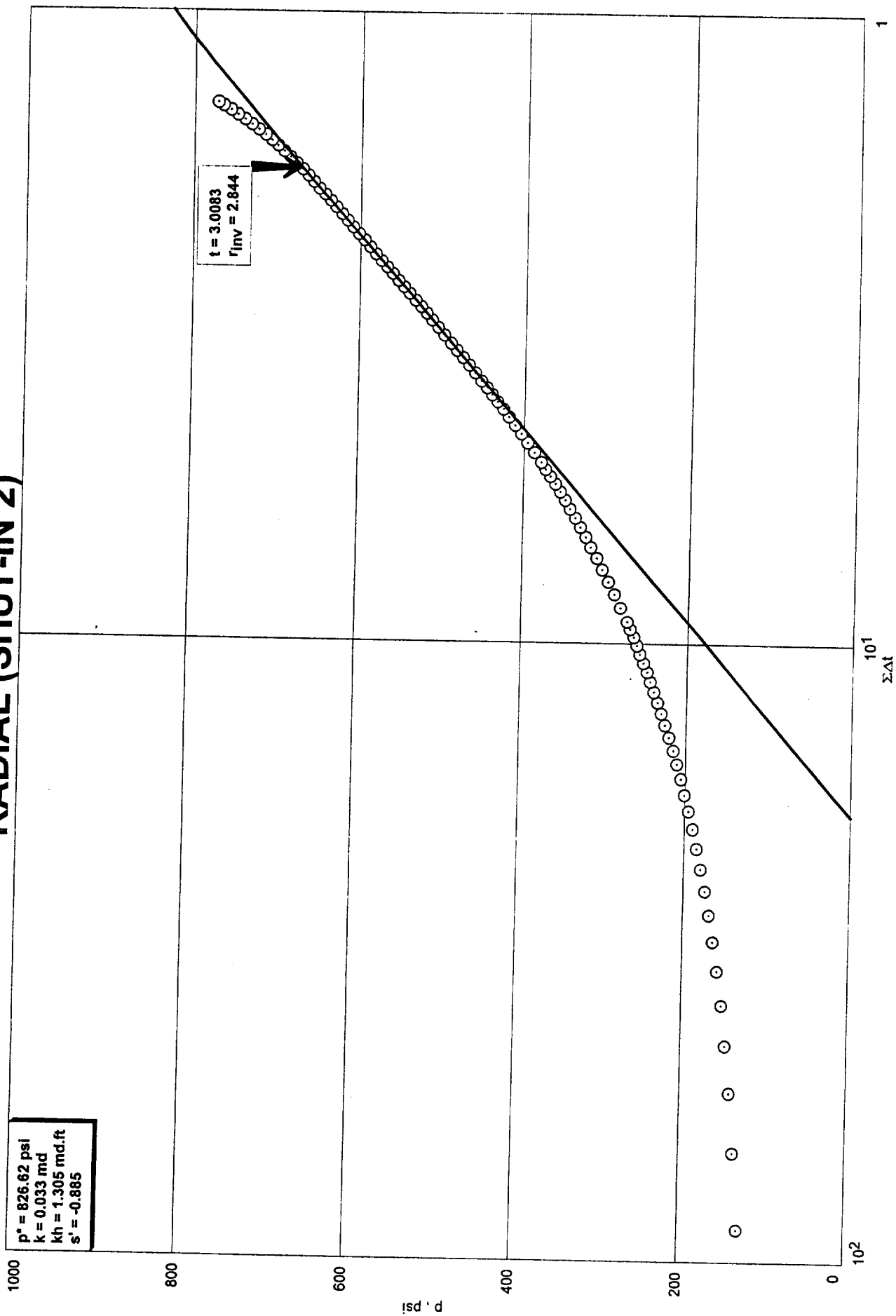
RADIAL (SHUT-IN 1)





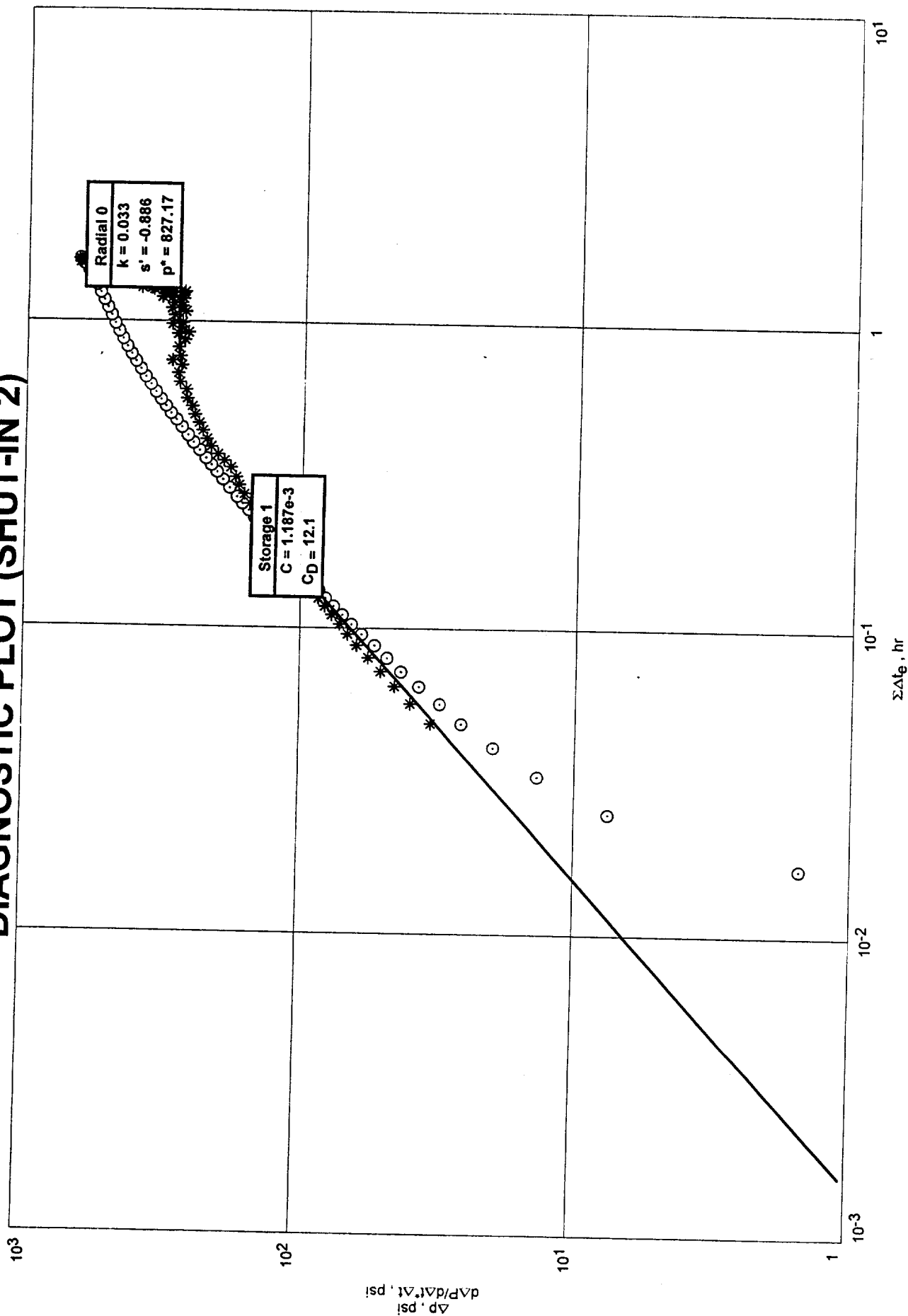
DAVID H ARRINGTON OIL & GAS INC
PRINCE NYMPH 1, DST 1

RADIAL (SHUT-IN 2)





DIAGNOSTIC PLOT (SHUT-IN 2)





Composite Oil Well Model

Case Name : Composite Model #1

DAVID H ARRINGTON OIL & GAS INC

PRINCE NYMPH 1, DST 1

Model Parameters

Region 1

Total Mobility (k/μ) _t	0.19 md/cp
Permeability (k) ₁	0.054 md
Net Pay (h) ₁	39.00 ft
Total Porosity (ϕ) ₁	6.00 %
Viscosity (μ) ₁	0.755 cp
Total Compressibility (c_t) ₁	3.427e-4 psi ⁻¹
Region Radius (r) ₁	1.139 ft
Skin (s)	-1.663

Region 2

Total Mobility (k/μ) _t	0.03 md/cp
Permeability (k) ₂	0.007 md
Net Pay (h) ₂	39.00 ft
Total Porosity (ϕ) ₂	6.00 %
Viscosity (μ) ₂	0.755 cp
Total Compressibility (c_t) ₂	3.427e-4 psi ⁻¹
Region Radius (r) ₂	1000000.000 ft

Formation Parameters

Oil Saturation (S _o)	80.00 %
Gas Saturation (S _g)	0.00 %
Water Saturation (S _w)	20.00 %
Wellbore Radius (r _w)	0.33 ft
Formation Temperature (	156.2 °F

Apparent Wellbore Storage Dim. (C _{ad})	0.00
Wellbore Storage Constant Dim. (C _D)	0.01
Storage Pressure Param. Dim. (C _{pD})	0.000

Production and Pressure

Q _t B _t	18.773 bbl/d
Final Oil Rate	5.800 bbl/d
Final Gas Rate	0.007 MMCF/D
Final Water Rate	0.000 bbl/d
Final Flowing Pressure (p _{wfo})	119.85 psi
Final Measured Pressure	772.17 psi
Initial Pressure (p _i)	1158.26 psi

Fluid Properties

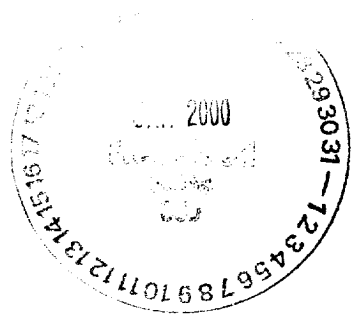
Oil Compressibility (c _o)	4.20120e-4 psi ⁻¹
Gas Compressibility (c _g)	9.47761e-4 psi ⁻¹
Water Compressibility (c _w)	3.07500e-6 psi ⁻¹
Oil Formation Volume Factor (B _o)	1.190
Gas Formation Volume Factor (B _g)	0.002378 bbl/scf
Water Formation Volume Factor (B _w)	1.017
Oil Viscosity (μ_o)	0.755 cp
Gas Viscosity (μ_g)	0.0137 cp
Water Viscosity (μ_w)	0.406 cp
Solution Gas Ratio (R _s)	256 scf/bbl
Oil Gravity (γ _o)	42.00 ° API
Gas Gravity (G)	0.650
PVT Reference Pressure (pp _{vT})	1158.26 psi
Bubble Point Pressure (P _{bp})	1158.26 psi

Forecasts

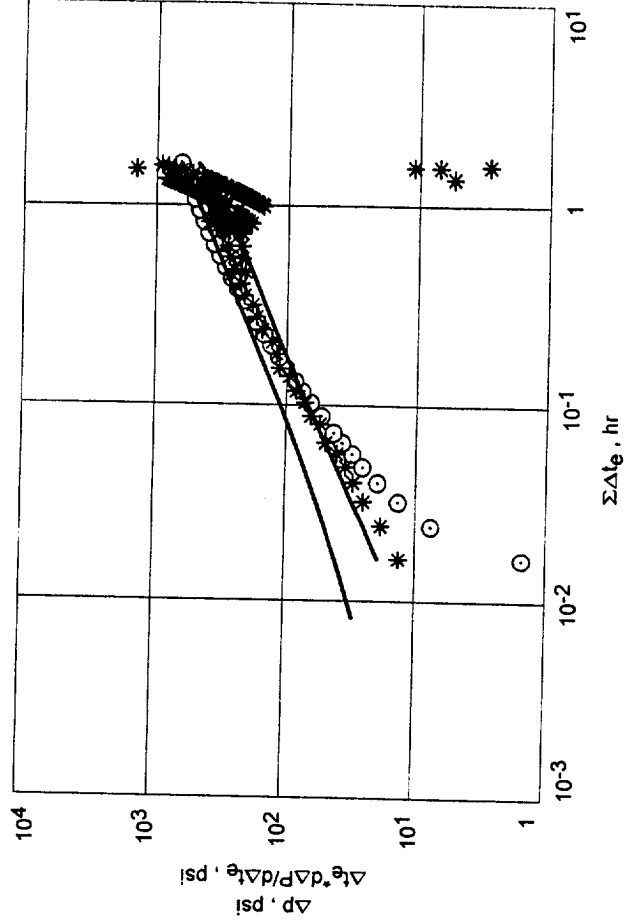
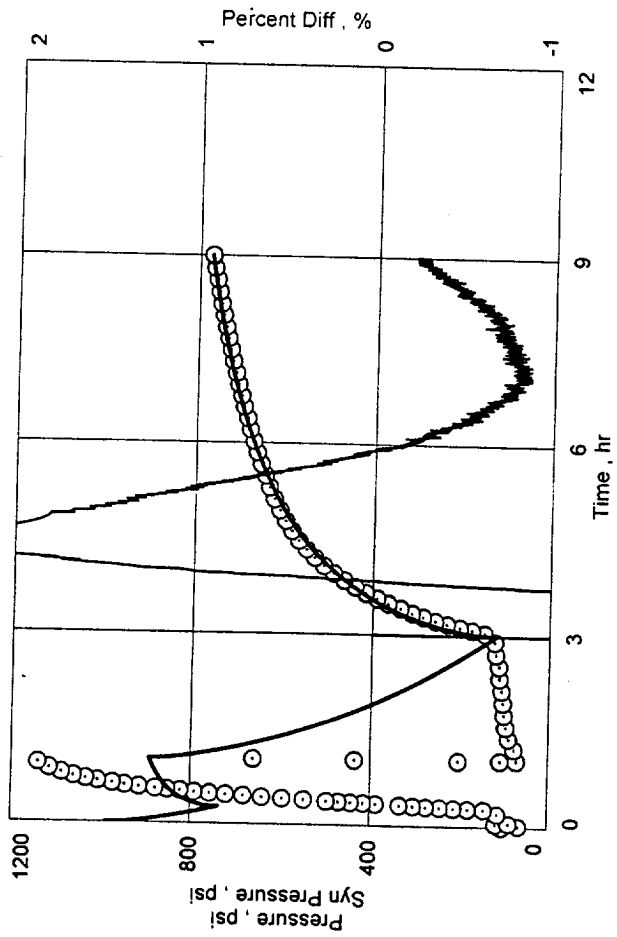
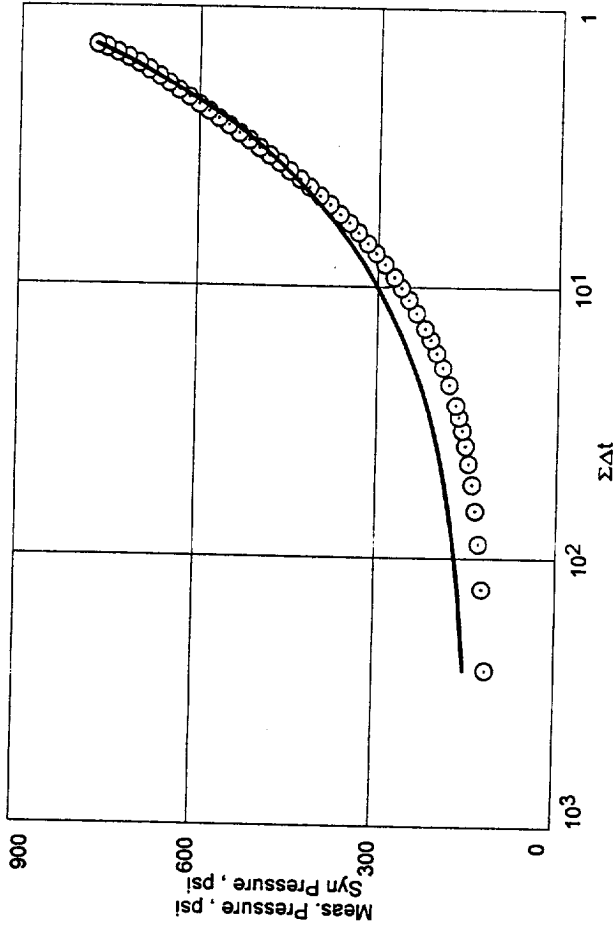
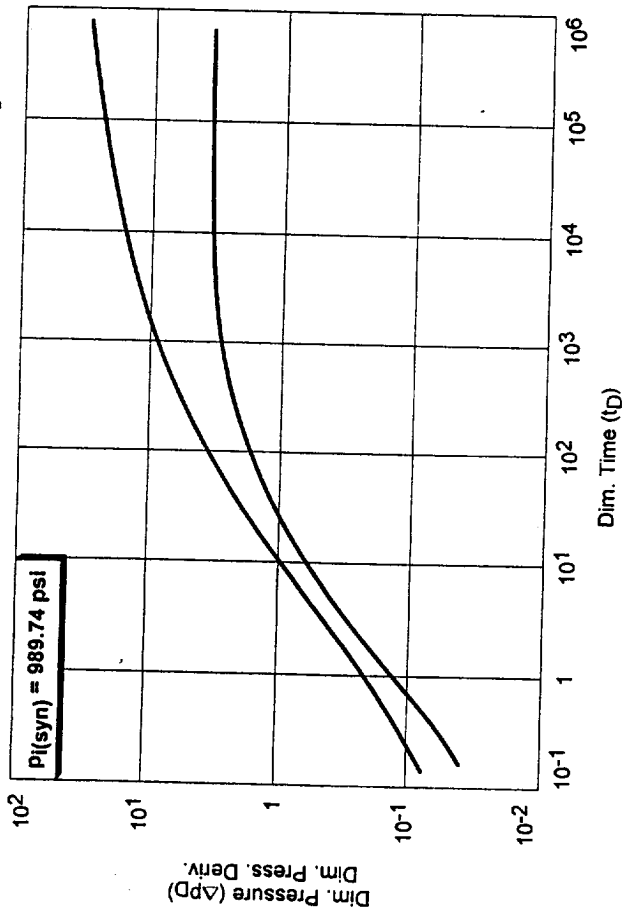
Specified Flowing Pressure (p _{wfs})	119.85 psi
3 - Month Constant Rate	0.660 bbl/d
6 - Month Constant Rate	0.592 bbl/d
Specified Forecast Time	12.00 month
Forecast Constant Rate @ Current Skin	0.538 bbl/d
PI / II (Actual)	0.001 bbl/d/psi
Forecast Constant Rate @ Skin=0	0.449 bbl/d
PI / II (Ideal)	0.001 bbl/d/psi
Forecast Constant Rate @ Skin=-4	1.234 bbl/d

Synthesis Results

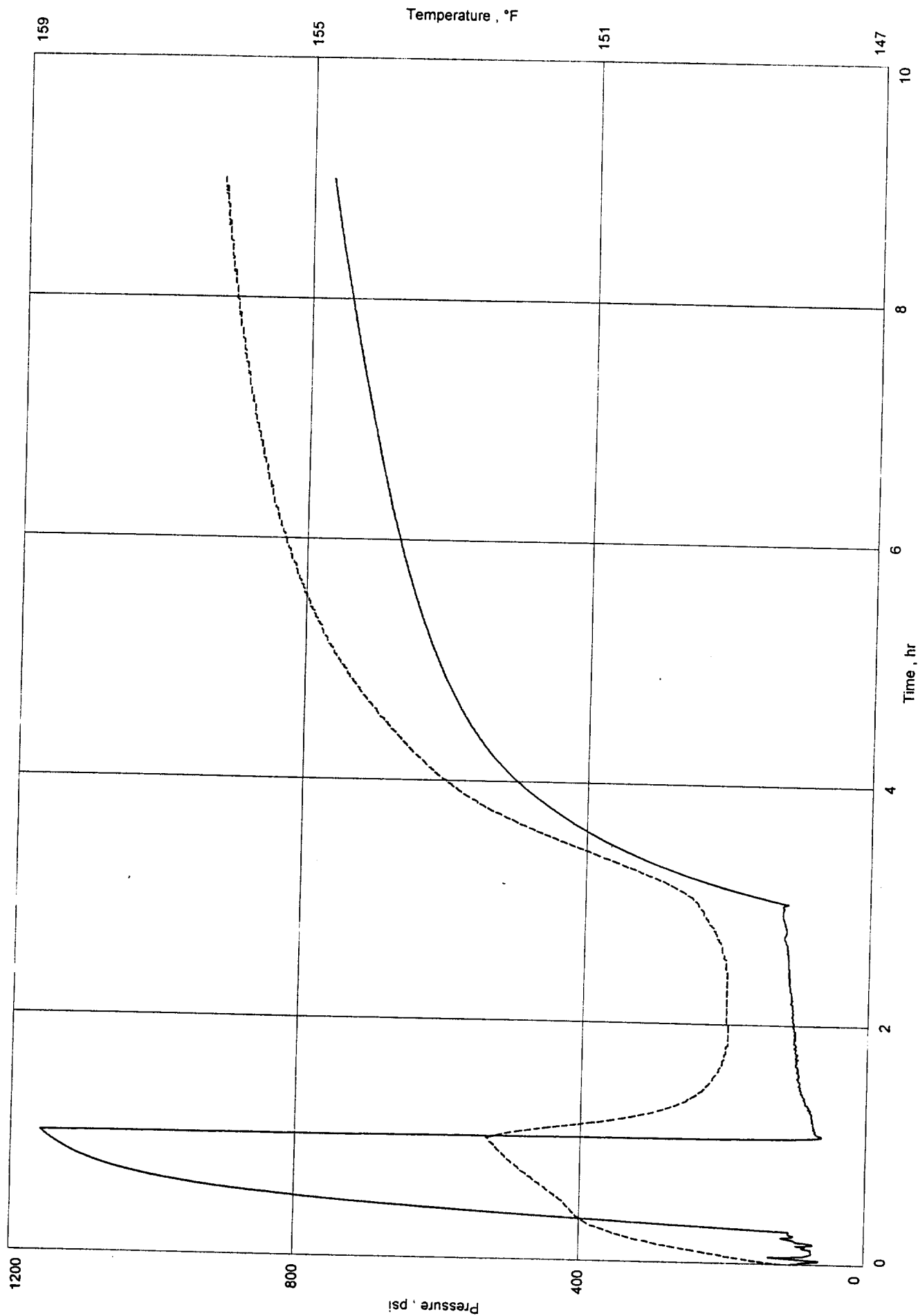
Average Error	-1.38 %
Synthetic Initial Pressure (p _i)	989.74 psi
Extrapolated Pressure at Specified Time	989.42 psi
Pressure Drop Due To Skin (Δp _s)	psi
Flow Efficiency (FE)	1.779
Damage Ratio (DR)	0.562

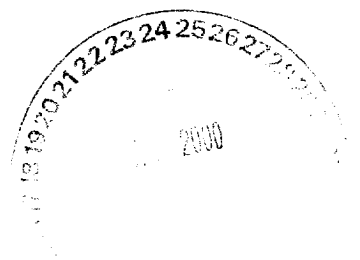


Composite Model #1









David H. Arrington Oil & Gas, Inc.
Prince Nymph #1

DISTRIBUTION OF FINAL REPORTS

Bill Baker, Jr. [3 + Disk]
David H. Arrington Oil & Gas, Inc.
Box 2071
Midland TX 79702

Robert Hefner [2]
Chesapeake Operating Co.
Box 14880
Oklahoma City OK 73113-0880

