

Oil Cons.  
N.M. DIV-Dist. 2  
1501 W. Grand Avenue  
Artesia, NM 88210

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.

LC-049945-B

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

8. Lease Name and Well No.

Parrot Federal Com #2

9. API Well No.

30-015-33345 S1

10. Field and Pool, or Exploratory

Wildcat-Chester-Wolfcamp

11. Sec., T., R., M., on Block and  
Survey or Area

29-19S-27E

12. County or Parish 13. State

Eddy

NM

2. Name of Operator

Yates Drilling Company

3. Address

105 S. 4th Str., Artesia, NM 88210

3a. Phone No. (include area code)

505-748-8463

4. Location of Well (Report location clearly and in accordance with Federal requirements)\*

At Surface

1600' FSL &amp; 660' FEL

At top prod. Interval reported below

At total depth

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OCT 26 2004

OED-ARTESIA

14. Date Spudded

5/29/2004

15. Date T.D. Reached

7/12/2004

16. Date Completed

10/5/2004

☐ D & A☒ Ready to Prod.

17. Elevations (DF, RKB, RT, GL)\*

3413' GL

18. Total Depth: MD 10'677'

TVD

19. Plug Back T.D.:

MD 8325'

TVD

20. Depth Bridge Plug Set:

MD 8360'

TVD

21. Type Electric &amp; Other Mechanical Logs Run (Submit copy of each)

CSNG/DSN/SDL, DLL/MGRD, SSS/RSCT

22 Was Well cored? ☒ No ☐ Yes (Submit analysis)Was DST run? ☐ No ☒ Yes (Submit report)Directional Survey? ☒ No ☐ Yes (Submit copy)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	State Cementer Depth	No. of Skis & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17 1/2"	13 3/8"	54.5	surf	430'		475 "C"	183	circ	none
12 1/4"	9 5/8"	36#	surf	2820'		900 "C"	521	circ	none
8 3/4"	7"	26 & 23#	surf	8205'		800 "C"	581	circ	none
6 1/8"	4 1/2"	11.6#	7983'	10677'		275 "C"	73	7983'	none

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2 3/8"	7920'	7920'						

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) Wolfcamp	8074'	8222'	10186'-10222'	.43"	72	plugged
B)			10094'-10126'	.43"	128	plugged
C)			8382'-8398'	.43"	64	plugged
D)			8074'-8158'	.48"	467	producing

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
10186'-10222' (plugged)	Acidized w/ 2000 gals 7 1/2" NEFE acid w/ N2, Frac'd w/ 40,980# 20/40 Interprop w/ 4838 SCF N2, 90 tons CO2
10094'-10126' (plugged)	Acidized w/ 3500 gals 7 1/2% HCL w/ 700 gals methanol
8382'-8398' (plugged)	Acidized 4000 gals 20% HCL

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
10/6/2004	10/18/2004	24	↗	183.39	970	0			Flowing
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas: Oil Ratio	Well Status	
12/64	2100		↗	183.39	970	0	528/1	flowing	

ACCEPTED FOR RECORD

28a. Production-Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			↗						
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas: Oil Ratio	Well Status	
SI			↗						

OCT 25 2004

ALEXIS C. SWOBODA  
PETROLEUM ENGINEER

## 28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production ⇒	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate ⇒	Oil BBL	Gas MCF	Water BBL	Gas: Oil Ratio	Well Status	

## 28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production ⇒	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate ⇒	Oil BBL	Gas MCF	Water BBL	Gas: Oil Ratio	Well Status	

## 29. Disposition of Gas (Sold, used for fuel, vented, etc.)

Sold

## 30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 31. Formation (Log) Markers

Formation	Top	Bottom	Description, Contents, etc.	Name	Top
					Meas Depth
				Queen	828'
				Grayburg	1124'
				San Andres	1682'
				Bone Spring Lime	2724'
				1st Bone Spring	5352'
				3rd Bone Spring	7364'
				Wolfcamp	7764'
				Cisco-Canyon	8348'
				Strawn	9024'
				Atoka	9592'
				Morrow	9886'
				Morrow Clastics	10034'
				Lower Morrow	10162'

## 32. Additional remarks (include plugging procedure):

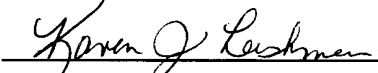
## #31: Additional Formation Markers

Barnett/Austin Cycle 10342'  
 Chester 10534'  
 TD 10725'

## 33. Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)    2. Geologic Report    3. DST Report    4. Directional Survey  
 5. Sundry Notice for plugging and cement verification    6. Core Analysis    7. Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)\*

Name (please print) Karen J. Leishman Title Engineering Tech  
 Signature  Date 10/20/2004

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

OPERATOR: YATES DRILLING  
WELL/LEASE: PARROT FED COM #2  
COUNTY: EDDY, NM

512-5062

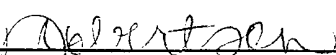
STATE OF NEW MEXICO  
DEVIATION REPORT

186	1/2	5,873	3/4
401	1 1/4	6,124	1
647	1 1/2	6,378	3/4
894	1 1/2	6,631	2 1/4
1,116	1 1/2	6,758	1 1/2
1,401	1 1/2	6,885	1 1/2
1,655	3/4	7,012	1 1/2
1,908	3/4	7,139	2 1/4
2,163	3/4	7,266	3
2,416	1/2	7,329	2 3/4
3,050	1	7,392	2 1/4
3,273	1	7,518	2 3/4
3,525	1	7,652	2 3/4
3,775	1 1/4	7,778	2 1/4
4,033	2 1/4	7,906	2 1/2
4,128	2 1/4	8,033	2 1/4
4,223	2 3/4	8,162	2 1/2
4,325	2 1/4	8,254	2 3/4
4,413	2 3/4	8,388	3 1/4
4,509	2 3/4	8,513	1
4,603	2 3/4	8,640	1 1/2
4,699	2 1/2	8,766	1
4,795	2 1/2	8,891	1 1/2
4,891	1 3/4	9,145	1 1/2
4,986	1 3/4	9,385	1 3/4
5,113	2	9,642	1 1/2
5,240	1 3/4	9,903	1 1/2
5,365	1 3/4	10,188	3/4
5,492	1 3/4	10,430	1
5,619	2	10,688	1
5,746	1 1/2		

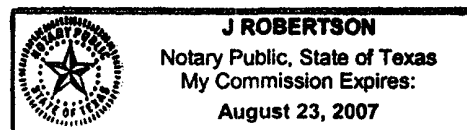
By 

STATE OF TEXAS  
COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on this 14th day of July, 2004, by Steve Moore on behalf of Patterson-UTI Drilling Company LP, LLLP.

  
Notary Public for Midland County, Texas

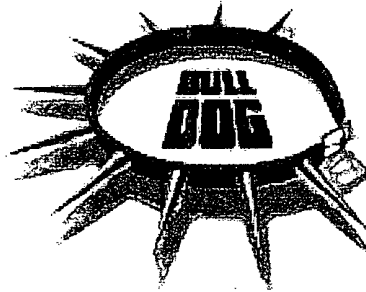
My Commission Expires: 8/23/2007



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2004 OCT 22 AM 9

BUREAU OF LAND MGMT.  
ROSWELL OFFICE



## **BULLDOG TESTERS**

Jal, New Mexico  
(505) 390-3070

Operator: Yates Drilling Co.  
Well Name: Parrot Federal Com #2  
Dst Number: 1  
Date of Test: 06/24/2004  
Date of Report: 06/25/2004

## **WELL TEST REPORT**

# BULLDOG TESTERS

## WELL TEST REPORT

Phone: (432) 756-5551  
Cell: (505) 390-3070

Technical Services  
(928) 505-8389

Well Owner: Yates Drilling Co.  
Well Name & Number: Parrot Federal Com # 2  
Location: S-29 T-19S R-27E  
Test Number: 1  
Service Order Number: 9017

Test Interval: 8078'- 8127'  
Field: Wildcat Chester  
County: Eddy  
State: New Mexico  
Bulldog Technician: Mark Luna

### TEST SEQUENCE

### TOOL SEQUENCE

Description	Date	Time	Pressure	Mcf/D	Component	OD (in)	ID (in)	Length (ft)	Depth (ft)
Set Packers	06/24/04	06:18			Drillpipe	4.50	3.826	7327.30	
Start flow on 1/8" choke		06:19	1"		Drillcollars	6.25	2.25	612.79	
		06:24	6.0"		Circulating Sub	6.00	2.25	1.00	
End flow - Start shut-in		06:34	12"		Drillcollars	6.25	2.25	93.00	
End shut-in		07:04	0.0		X-Over	6.00	2.25	1.00	
Start flow on 1/8" choke		07:04	4.5"		Recorder	5.00	1.12	3.00	8035
		07:08	12"		Shut-in/Sampler	5.00	0.68	9.20	8038
		07:14	17.5 oz		Hydraulic Tool	5.00	1.18	5.21	
Open to 1/4" choke		07:24	4.0 psi		Recorder	5.00	1.12	5.69	8052
		07:34	20.0		Jars	5.00	1.87	7.68	
		07:39	30.0		Packer	8.00	1.50	6.22	8072
Gas to surface		07:44	36.0	67.6	Packer	8.00	1.50	6.22	8078
		07:54	52.0	91.1	Perfs	5.00	3.00	(	
Open to 3/8" choke		08:09	70.0	253.0	X-Over	6.00	2.25	)	
		08:24	60.0	219.0	Drillcollars	6.25	2.25	(	
		08:44	66.0	239.0	X-Over	6.00	2.25	)	
		09:04	74.0	266.0	Perfs	5.00	3.00	(	
		09:24	74.0	266.0	Recorder	5.00	1.12	49	8127 (TD)
		09:44	75.0	270.0					
		10:04	76.0	273.0					
End flow - Start shut-in		10:34	76.0	273.0					
End shut-in		17:34	0.0						
Pulled tool		17:35							



# BULLDOG TESTERS

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Phone: (432) 756-5551  
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(928) 505-8389

Well Owner: Yates Drilling Co.  
Well Name & Number: Parrot Federal Com #2  
Location: S-29 T-19S R-27E  
Test Number: 1  
Service Order Number: 9017

Test Interval: 8078'- 8127'  
Field: Wildcat Chester  
County: Eddy  
State: New Mexico  
Bulldog Technician: Mark Luna

### INSTRUMENT DATA

### WELL DATA

Instrument Number:	Spartek 76134	Spartek 71067	Mechanical	Mud Type: Gel	Mud Wt.: 10.2
Capacity (psig)	10000	10000	6450	Viscosity:	Water Loss:
Depth (ft)	8052	8035	8122	Resistivity of Mud:	0.058 @ 70 deg f
Inside / Outside	Inside	Inside / Above	Outside	Resistivity of Filtrate:	
Clock Capacity:	Elec	Elec		Chlorides:	145,000
Temperature (f)	139.8			H2S During Test:	None
Initial Hydrostatic:	4334			Formation:	Wolfcamp
Pre-Flow:	1010 - 1121	No		Tested Interval:	8078'- 8127'
Initial Shut-in:	4106	Leaks		Elevation:	3408 GL
2nd Flow:				Total Measured Depth:	8127
2nd Shut-in:				Open Hole Size:	8 3/4"
Final Flow:	1187 - 1277	No		Casing Size:	9 5/8"
Final Shut-in:	4212	Leaks		Cushion:	None
Final Hydrostatic:	4330			Bottom Choke Size:	5/8"

### PIPE RECOVERY

Ran 988' water cushion = 7.45 bbl.  
1707' Total fluid = 17.67 bbl., consisting of:  
719' Oil = 10.22 bbl. (gravity: 46.0 deg API @ 60 deg f)  
988' Water cushion = 7.45 bbl. (nw: 17.74 @ 70 deg f/300 ppm Cl.)

### SAMPLER REPORT

Total Volume of Sample:	1500	CC	
Pressure in Sampler:	1276	Psi	
Gas:	4.44	Cu.Ft.	
Oil:	700	CC	Gravity: 46.0 deg API @ 60 deg f
Water:	0	CC	Resistivity:
Mud:	0	CC	Resistivity:



Yates Drilling Co.  
Parrot Federal Com #2, Dst #1

Comments relative to analysis of the drill stem test that was run in the Wolfcamp formation by Bulldog Testers.

This analysis is based upon the liquid recovery and equations applicable to liquid recovery tests; radial flow analysis and derivative analysis techniques. It has been assumed, for purposes of this analysis that the tested reservoir system consisted of a single porosity zone 45 feet in thickness with an average porosity of 15 percent. The diagnostic plot indicates constantly decreasing derivative pressures. This type of flow regime is generally associated with either the presence of a constant pressure boundary and/or that the tested reservoir system was only partially penetrated. Therefore, a vertical oil-well model with spherical flow characteristics was used for type-curve matching and non-linear regression analysis.

The semi-log plots indicate a maximum initial reservoir pressure of 4251 psi and a maximum final reservoir pressure of 4247 psi, which is equivalent to a subsurface pressure gradient of 0.527 psi/ft at gauge depth. This pressure gradient is somewhat high compared to "normal" reservoir pressures which are generally 0.36 psi/ft to 0.41 psi/ft.

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 0.345 psi/ft.

The calculated Skin Factors indicate significant well-bore damage was present at the time of this formation test.

The evaluation criteria used in the drill stem 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.

Michael Hudson  
Analyst  
(928) 505-8389



# Vertical Oil Well Model

Yates Drilling Co  
Parrot Federal Com 2, Dst 1  
Gauge 76134

## Model Parameters

Oil Permeability ( $k_o$ )	0.308 md	Total Mobility ( $k/\mu$ ) <sub>t</sub>	2.11 md/cp
Gas Permeability ( $k_g$ )	0.026 md	Total Transmissivity ( $kh/\mu$ ) <sub>t</sub>	95.13 md.ft/cp
		Skin (s)	4.635

## Formation Parameters

Net Pay (h)	45.000 ft
Total Porosity ( $\phi_t$ )	15.00 %
Oil Saturation ( $S_o$ )	80.00 %
Gas Saturation ( $S_g$ )	0.00 %
Water Saturation ( $S_w$ )	20.00 %
Wellbore Radius ( $r_w$ )	0.36 ft
Formation Temperature (T)	139.8 °F
Formation Compressibility ( $c_f$ )	4.109e-6 psi <sup>-1</sup>
Total Compressibility ( $c_t$ )	1.999e-5 psi <sup>-1</sup>
Wellbore Storage Constant Dim. ( $C_D$ )	3.86

## Fluid Properties

Oil Compressibility ( $c_o$ )	1.91576e-5 psi <sup>-1</sup>
Gas Compressibility ( $c_g$ )	1.52775e-4 psi <sup>-1</sup>
Water Compressibility ( $c_w$ )	2.79207e-6 psi <sup>-1</sup>
Oil Formation Volume Factor ( $B_o$ )	1.761
Gas Formation Volume Factor ( $B_g$ )	0.000645 bbl/scf
Water Formation Volume Factor ( $B_w$ )	1.003
Oil Viscosity ( $\mu_o$ )	0.294 cp
Gas Viscosity ( $\mu_g$ )	0.0242 cp
Water Viscosity ( $\mu_w$ )	0.466 cp
Solution Gas Ratio ( $R_s$ )	1472 scf/bbl
Oil Gravity ( $\gamma_o$ )	46.00 ° API
Gas Gravity (G)	0.650
PVT Reference Pressure ( $p_{pVT}$ )	4251.06 psi
Bubble Point Pressure ( $P_{bp}$ )	4251.06 psi

## Production and Pressure

$Q_t B_t$	228.196 bbl/d
Final Oil Rate	64.230 bbl/d
Final Gas Rate	0.273 MMCF/D
Final Flowing Pressure ( $p_{wfo}$ )	1278.93 psi
Final Measured Pressure	4211.81 psi
Cumulative Oil Production During Test	10.064 bbl

## Synthesis Results

Average Error	0.22 %
Synthetic Initial Pressure ( $p_i$ )	4228.10 psi
Extrapolated Pressure at Specified Time	4228.10 psi
Pressure Drop Due To Skin ( $\Delta p_s$ )	1570.04 psi
Flow Efficiency (FE)	0.468
Damage Ratio (DR)	2.138

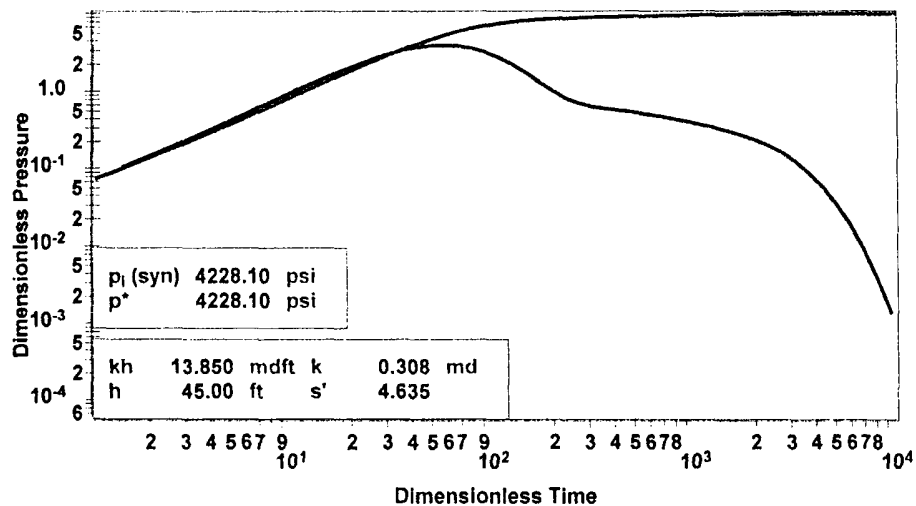
## Forecasts

Forecast Flowing Pressure ( $P_{flow}$ )	1278.93 psi
3 - Month Constant Rate Forecast @ Curr. Skin	64.189 bbl/d
6 - Month Constant Rate Forecast @ Curr. Skin	64.189 bbl/d
Forecast Flow Duration ( $t_{flow}$ )	12.00 month
Constant Rate Forecast @ Curr. Skin	64.189 bbl/d
PI / II (Total Liquids - Actual)	0.022 bbl/d/psi
Constant Rate Forecast @ Skin=0	137.166 bbl/d
PI / II (Total Liquids - Ideal)	0.047 bbl/d/psi
Constant Rate Forecast @ Skin=-4	1621.367 bbl/d



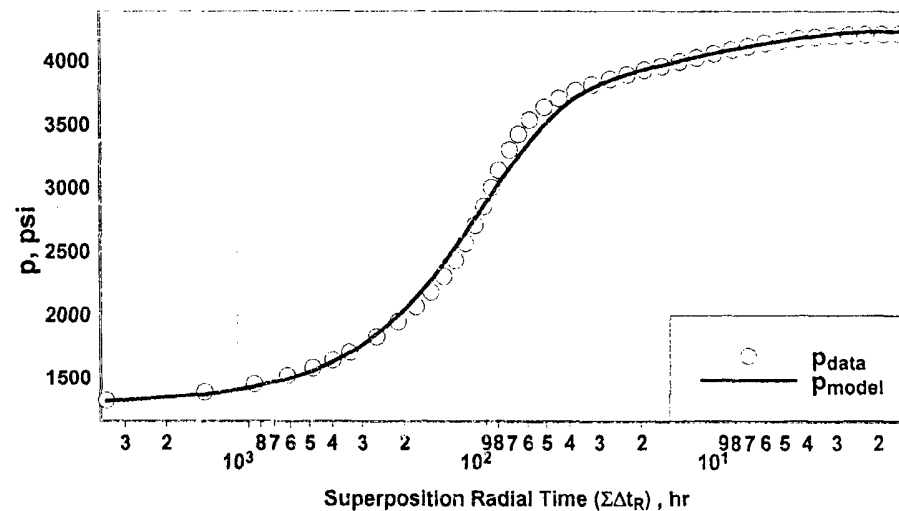
# Vertical Oil-Well Model - Spherical Flow

Dimensionless Typecurve



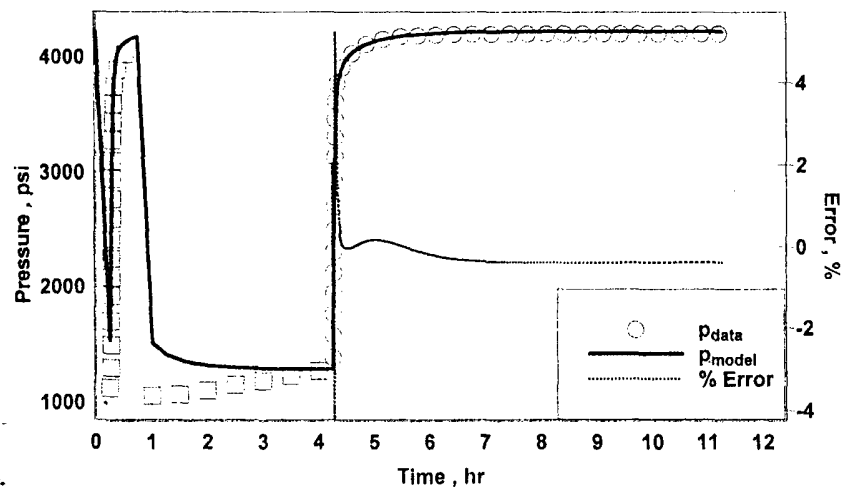
# Vertical Oil-Well Model - Spherical Flow

Radial



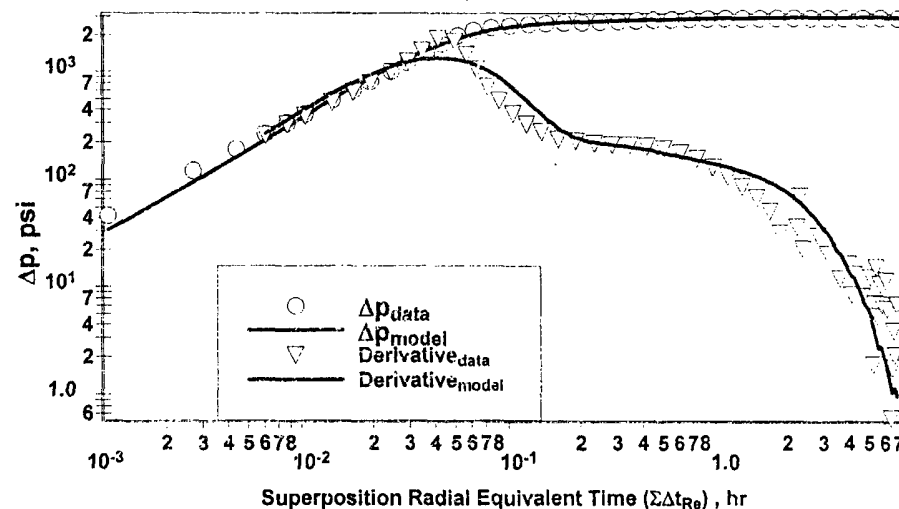
# Vertical Oil-Well Model - Spherical Flow

Total Test



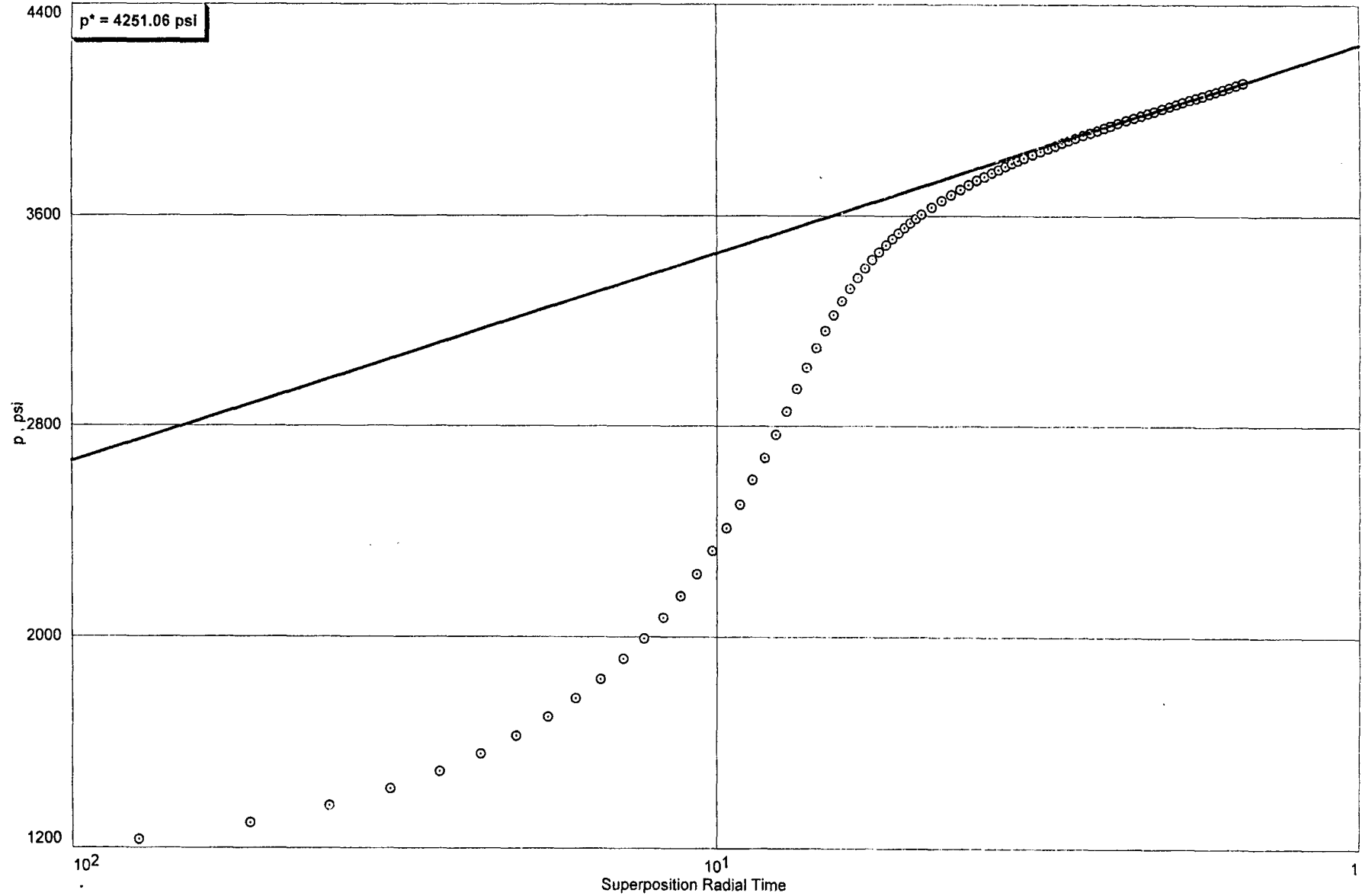
# Vertical Oil-Well Model - Spherical Flow

Typecurve



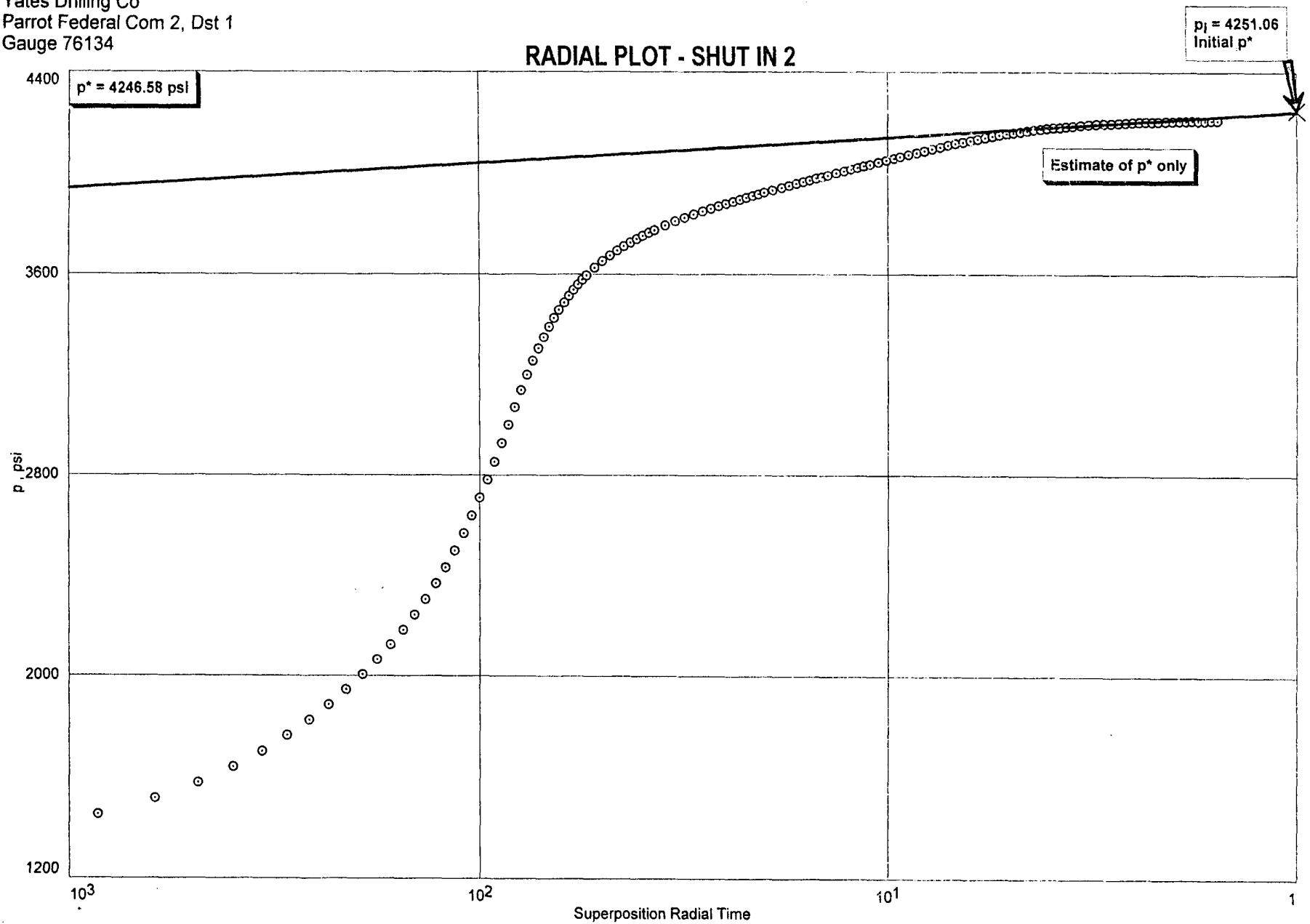
Yates Drilling Co  
Parrot Federal Com 2, Dst 1  
Gauge 76134

RADIAL PLOT - SHUT IN 1



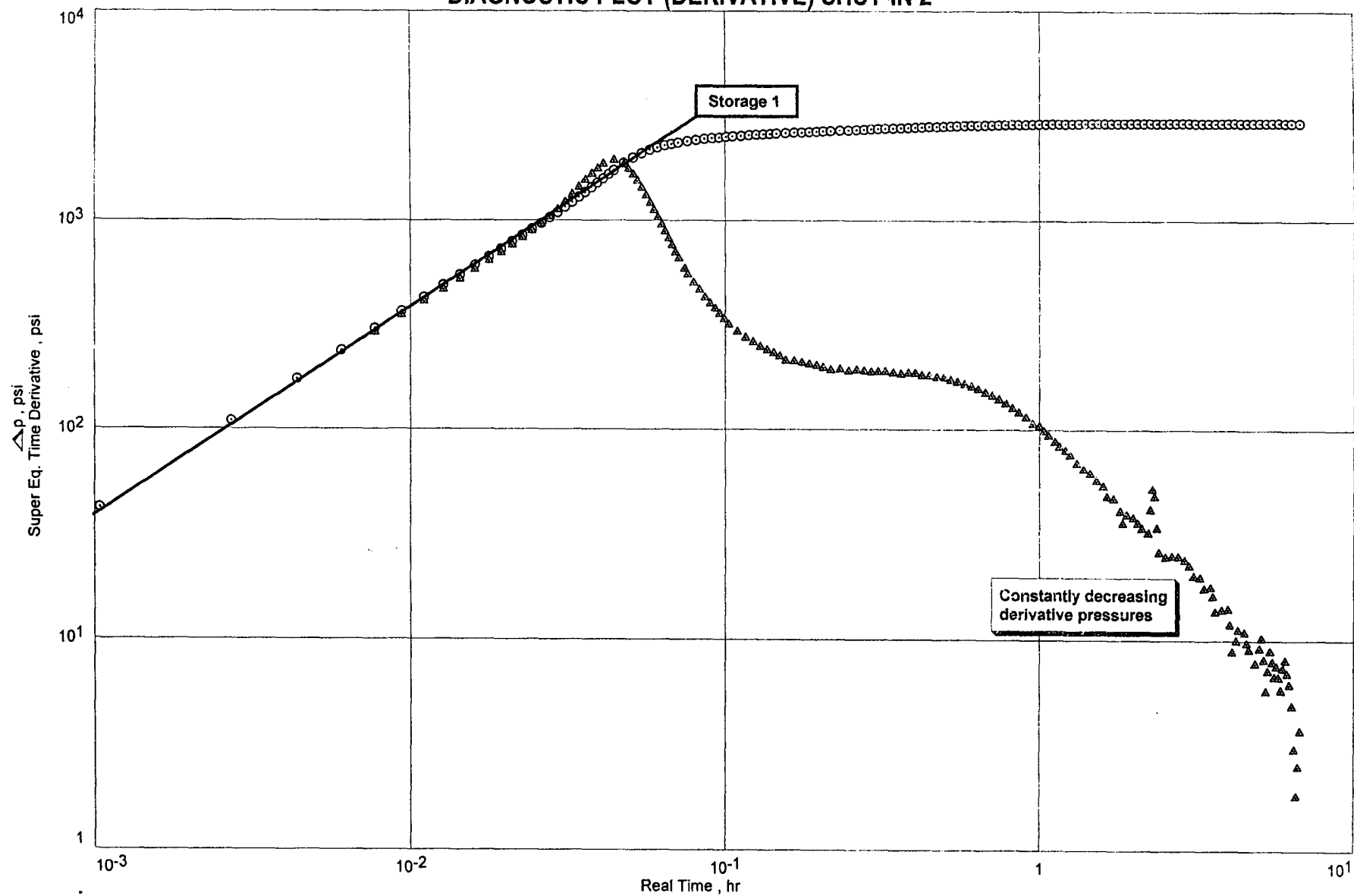
Yates Drilling Co  
Parrot Federal Com 2, Dst 1  
Gauge 76134

RADIAL PLOT - SHUT IN 2



Yates Drilling Co  
Parrot Federal Com 2, Dst 1  
Gauge 76134

## DIAGNOSTIC PLOT (DERIVATIVE) SHUT-IN 2



# Inflow Performance Relationship (I.P.R.)

Yates Drilling Co  
Parrot Federal Com 2, Dst 1

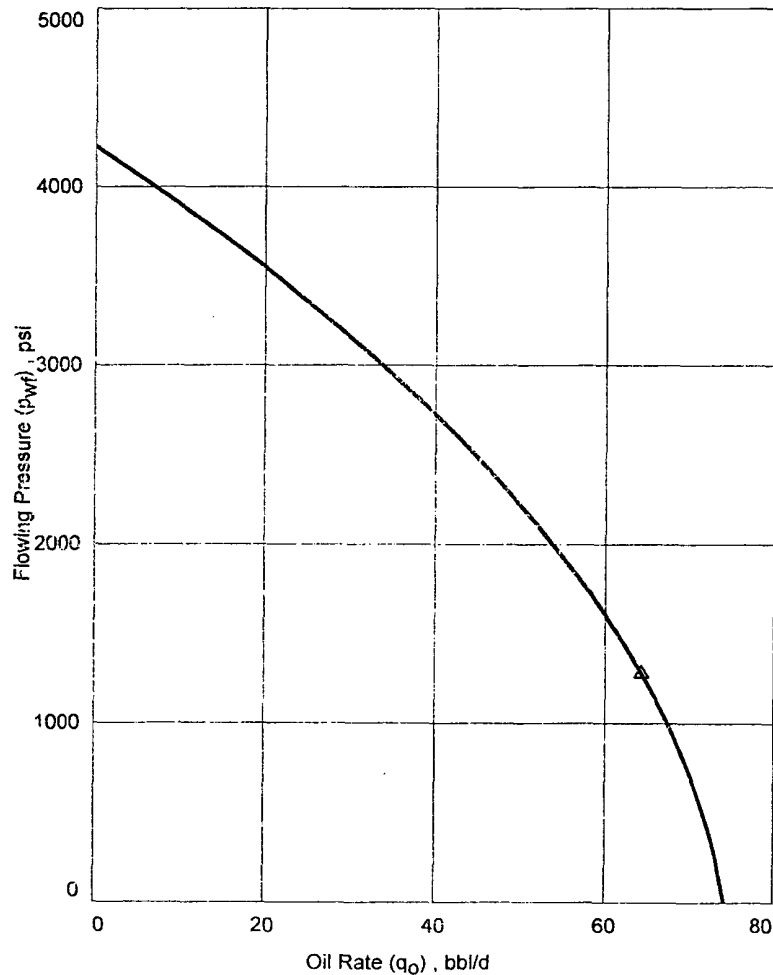
Gauge 76134

## Test Data

Reservoir Pressure ( $p_R$ )	4228.00	psi
Bubble Point Pressure ( $p_{bp}$ )	4251.00	psi
Test Pressure ( $p_{wf}$ )	1278.93	psi
Oil Test Rate ( $q_o$ )	64.230	bbl/d
Water Test Rate ( $q_w$ )		bbl/d

## Results

Maximum Oil Rate	74.143	bbl/d
Maximum Water Rate		bbl/d
Maximum Total Rate		bbl/d



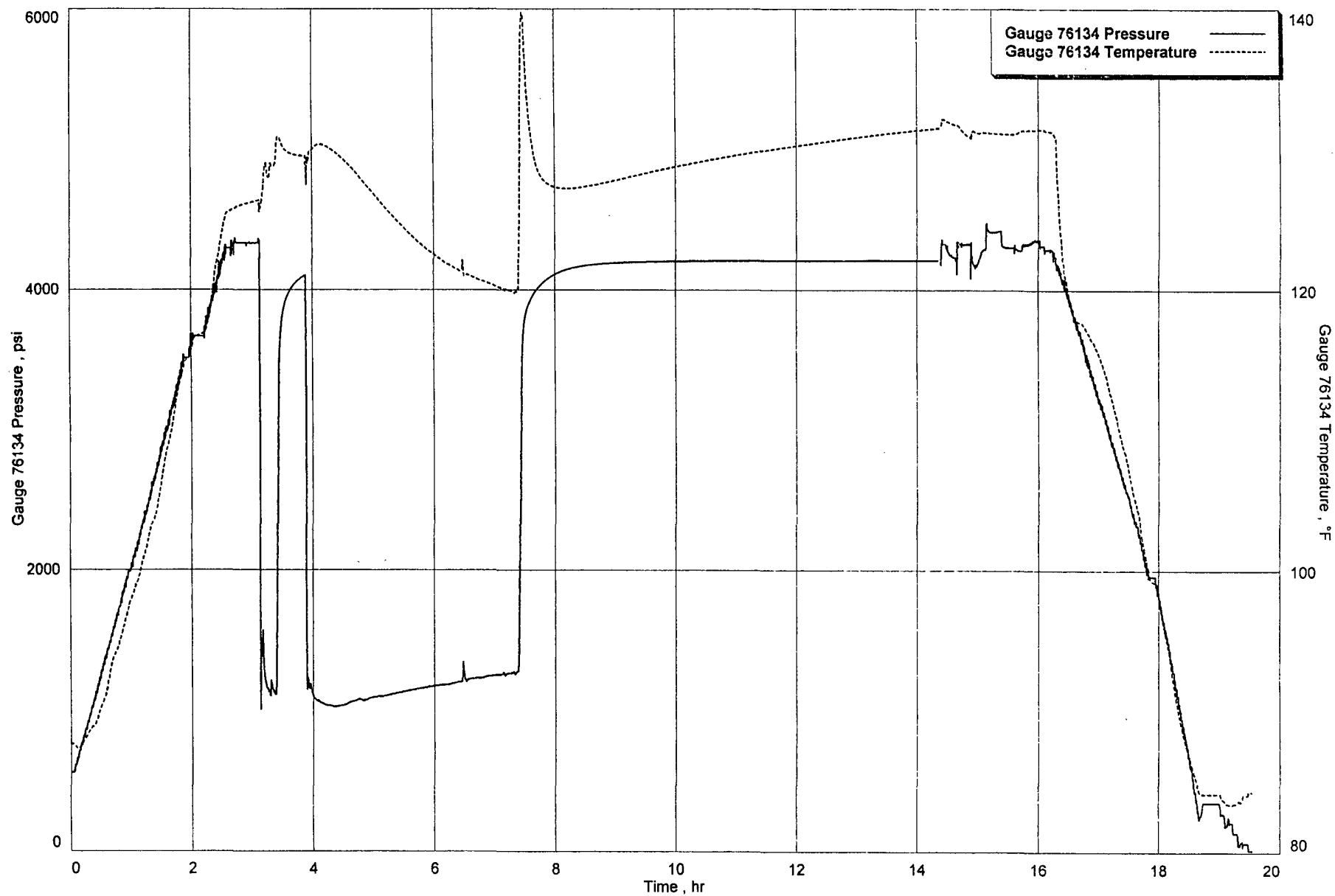
Flowing Pressure psi	Oil Rate bbl/d	Water Rate bbl/d	Total Rate bbl/d
0.00	74.143		
300.00	72.792		
600.00	70.844		
900.00	68.299		
1200.00	65.156		
1278.93*	64.230		
1500.00	61.416		
1800.00	57.079		
2100.00	52.145		
2400.00	46.613		
2700.00	40.484		
3000.00	33.758		
3300.00	26.435		
3600.00	18.514		
3900.00	9.996		
4200.00	0.881		
4228.00	0.000		

Note : \* Test Point

\*\* Bubble Point

Oil IPR based on Vogel's Equation.  
(Quadratic Curve Factor=0.2)

Yates Drilling Co  
Parrot Federal Com 2, Dst 1



Yates Drilling Co.  
Parrot Federal Com #2

## DISTRIBUTION OF FINAL REPORTS

Toby Rhodes [2 + Disk]  
Yates Drilling Co.  
105 S. 4th St.  
Artesia NM 88210