Schlumberger

TESTING SERVICES REPORT

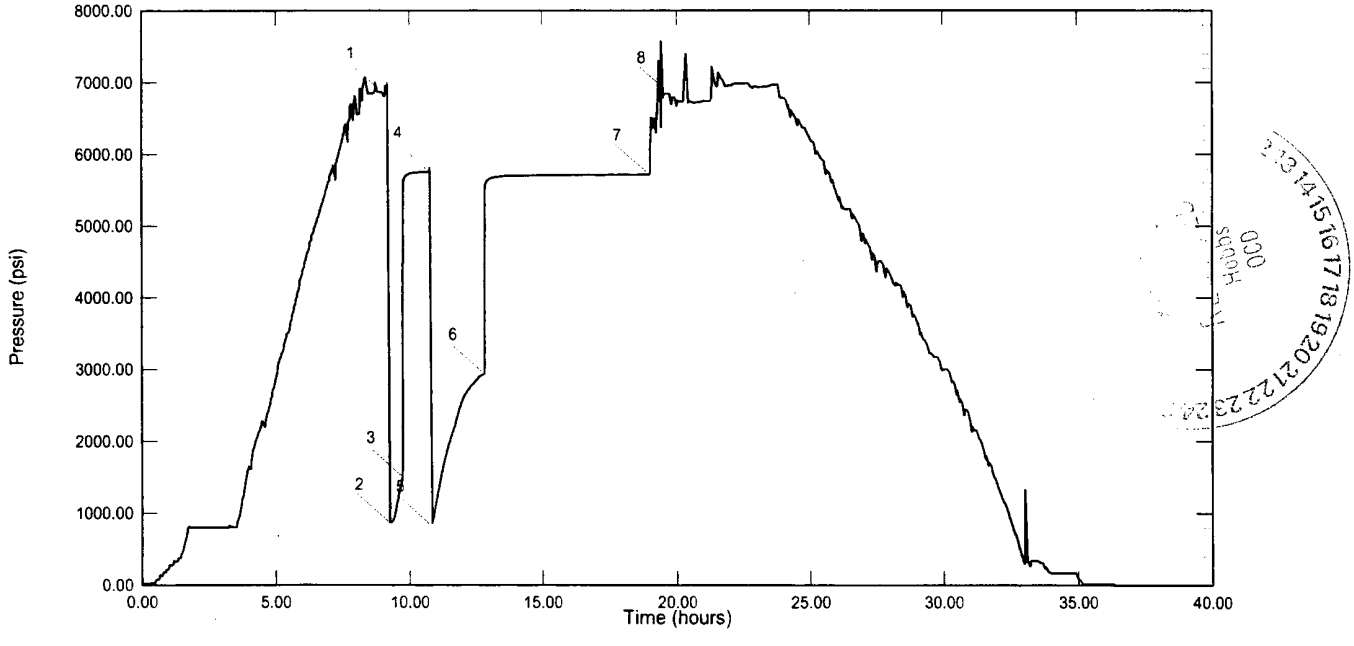
KEY 20 #1

ENSIGN OPERATING CO.

CONVENTIONAL DST

WILDCAT
Rig : PATTERSON #511
LEA - NEW MEXICO

Report Number
10616127
Test Date
APR. 9, 2003
Report Date
APR. 9, 2003



Report Contents

Job Summary, Comments Page, Sequence of Events, Label Point Information, Plots, Summary Data Printout, Distribution

Schlumberger Testing Services
505-393-4107

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Job Summary

ENSIGN OPERATING CO.

CONVENTIONAL DST

KEY # ONE
WILDCAT

Service Order Number : **10616127**
Test Date : **APR. 9, 2003**

Company Rep	JOHN STINSON	**SWS Rep**	BILL GRAYSHAW

Test Information

Test Number	ONE	Formation	MORROW
		Interval (MD ft)	13290 - 13372 = 82'

Well Location

Well	KEY # ONE	Rig	PATTERSON #511
Field	WILDCAT	State	LEA - NEW MEXICO

Wellbore Configuration

Total Depth (MD/TVD ft)	13372'	Wellbore Radius (ft)	4.25"
Casing / Liner ID (in)		Mud Weight (lb/gal)	9.6
Top of Liner (md- ft)	9.625" AT 4445'	Mud Type	XCD POLYMER

Test String Configuration

Pipe Length (ft) / ID (in)	12576' / 3.826"	Gauge Depth (MD)	13298
Pipe Length (ft) / ID (in)	n/a	Gauge Depth (TVD)	13298
Drill Collar Length (ft) / ID (in)	680' / 2.25"	Test Valve Type	MULTI - FLOW
Packer Depths (ft MD)	/ 13290'	Test Valve Depth (ft) (MD)	13271'

Key Information

Initial Hydrostatic Pressure	6864	Final Shut In Pressure	5714
Init. Hyd Grad & Density	0.516 psi/ft / 9.93 lb/gal	FinalShut In Grad & Density	0.430 psi/ft / 8.26 lb/gal
Final Hydrostatic Pressure	6797	Final Flowing Pressure	2963
Final Hyd Grad & Density	0.511 psi/ft / 9.83 lb/gal	Final Flow Rate ( )	2743
Bottom Hole Temp	191	Productivity Index ( )	0.997

Job Description / Services Requested

Schlumberger Crew

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Sample Chamber Data

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Sample Chamber Capacity (cc) 2500

Measured Fluid Recovery

			Temp (F)	Press (psia)
Oil (cc)	TRACE	API Gravity		1300.0
Water (cc)		Res. (ohms) ...		1300.0
Mud (cc)		Res. (ohms) ...		
Total Liquid Recovery (cc)				
Gas (ft3)	8.7			1300.0

Corrected Sample Chamber Gas Recovery

Bottomhole Temperature (F)	191	Assumed SC Gas Gravity	0.650
Final Flowing Pressure (psia)	2963	Est Z Value @ Pwf and Tres	0.892
Corrected Gas Recovery (scf)	#VALUE!		

Sample Chamber Fluid Ratios

Sample Chamber Water Cut	#VALUE!
GOR Using Corrected Gas Recovery	#VALUE!
GLR Using Corrected Gas Recovery	#VALUE!

Pipe Recovery

Description	Recovery feet	Pipe ID (in)	Recovery bbl	Oil Density API	RES ohm	CHL ppm
THE RECOVERY						
WAS CIRCULATED						
UP THE ANNULUS						

Additional Comments

We had a successful test. Our test inteval in the Morrow formation was from 13290' to 13372'. The net pay was 16 feet from 13336' to 13352'.

We had gas to surface in only 11 minutes from the time we opened the tool. When we cycled the tool shut after the end of the initial flow we by passed perhaps a barrel of mud around the packer. We can barely see it on the chart.

Small slugs of the fluid started coming to surface during the final flow with traces of condensate. We did run 1526' or 15.3 barrels of KCL water for a cushion for this test. It all came out at surface during the test. Except for that occassional slug of fluid at surface, we could say it was a dry gas test. The majority of the water unloaded during the final shut in period.

After we pulled the packers loose we filled the pipe with mud and dropped the bar to circulate a round of good mud in the wellbore. The recovery, if much at all was circulated up the annulus.

Thank you for using Schlumberger for this test. i personally enjoyed it and will be happy to answer any questions about this test if you call 505-393-4107. Or e-mail at bgrayshaw@hobbs.oilfield.slb.com

Schlumberger	*Sequence of Events* ENSIGN OPERATING CO. CONVENTIONAL DST	
KEY # ONE		10616127
WILDCAT		APR. 9, 2003

Date (dd-mmm-yy)	Time (hh:mm:ss)	Comments
9-Apr-03	4:20	OPEN TO 1/8" BUBBLE HOSE AND 1/4" CHOKE
	4:23	SET PACKER
	4:26	START FLOW WITH 1/2" ON THE HOSE
	4:27	7" ON THE HOSE. BOTTOM OF THE BUCKET 1 MIN 15 SEC
	4:28	2 MIN 9 OUNCES
	4:29	3 MIN 15 OUNCES
	4:30	4 MIN 25 OUNCES
	4:31	5 MIN 2 POUNDS
	4:36	10 MIN 45 POUNDS
	4:37	11 MINS GAS TO SURFACE THEN OPEN TO THE 1/4" CHOKE ONLY
	4:41	15 MIN 250 POUNDS = 362 MCFD
	4:46	20 MIN 460 POUNDS = 662 MCFD
	4:51	25 MIN 550 POUNDS = 794 MCFD
	4:56	END INTIAL FLOW AND START INITIAL SHUT-IN WITH 640 POUNDS = 929 MCFD
	4:59	OPEN TO 3/4" CHOKE ONLY
	5:55	OPEN TO THE 1/4" CHOKE ONLY THE FLARE IS STILL BURNING WITH 60 POUNDS AT SURFACE
	5:56	END INTIAL SHUT IN
	5:59	START FINAL FLOW WITH 60 POUNDS
	6:04	5 MIN 180 POUNDS = 264 MCFD
	6:09	10 MIN 390 POUNDS = 560 MCFD
	6:14	15 MIN 550 POUNDS = 794 MCFD WE SEE SLUGS OF THE WATER CUSHION AT SURFACE WITH SLIGHT TRACES OF CONDENSATE WITH IT
	6:19	20 MIN 700 POUNDS = 1020 MCFD
	6:29	30 MIN 940 POUNDS = 1395 MCFD
	6:39	40 MIN 1080 POUNDS = 1621 MCFD
	6:49	50 MIN 1220 POUNDS = 1852 MCFD
	6:59	60 MIN 1400 POUNDS = 2153 MCFD
	6:59	70 MIN 1570 POUNDS = 2440 MCFD
	7:19	80 MIN 1650 POUNDS = 2575 MCFD
	7:29	90 MIN 1700 POUNDS = 2659 MCFD
	7:39	100 MIN MAXIMUM PRESSURE 1760 POUNDS =2760 MCFD
	7:49	110 MIN PRESSURE DROPPING 1750 POUNDS = 2743 MCFD
	7:59	END FINAL FLOW AND START FINAL SHUT IN WITH 1750 POUNDS AT SURFACE
	8:03	OPEN TO 3/4" CHOKE ONLY
	10:45	FLARE IS DEAD
	14:12	END FINAL SHUT IN
	14:44	PULLED PACKERS LOOSE

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Data Plots

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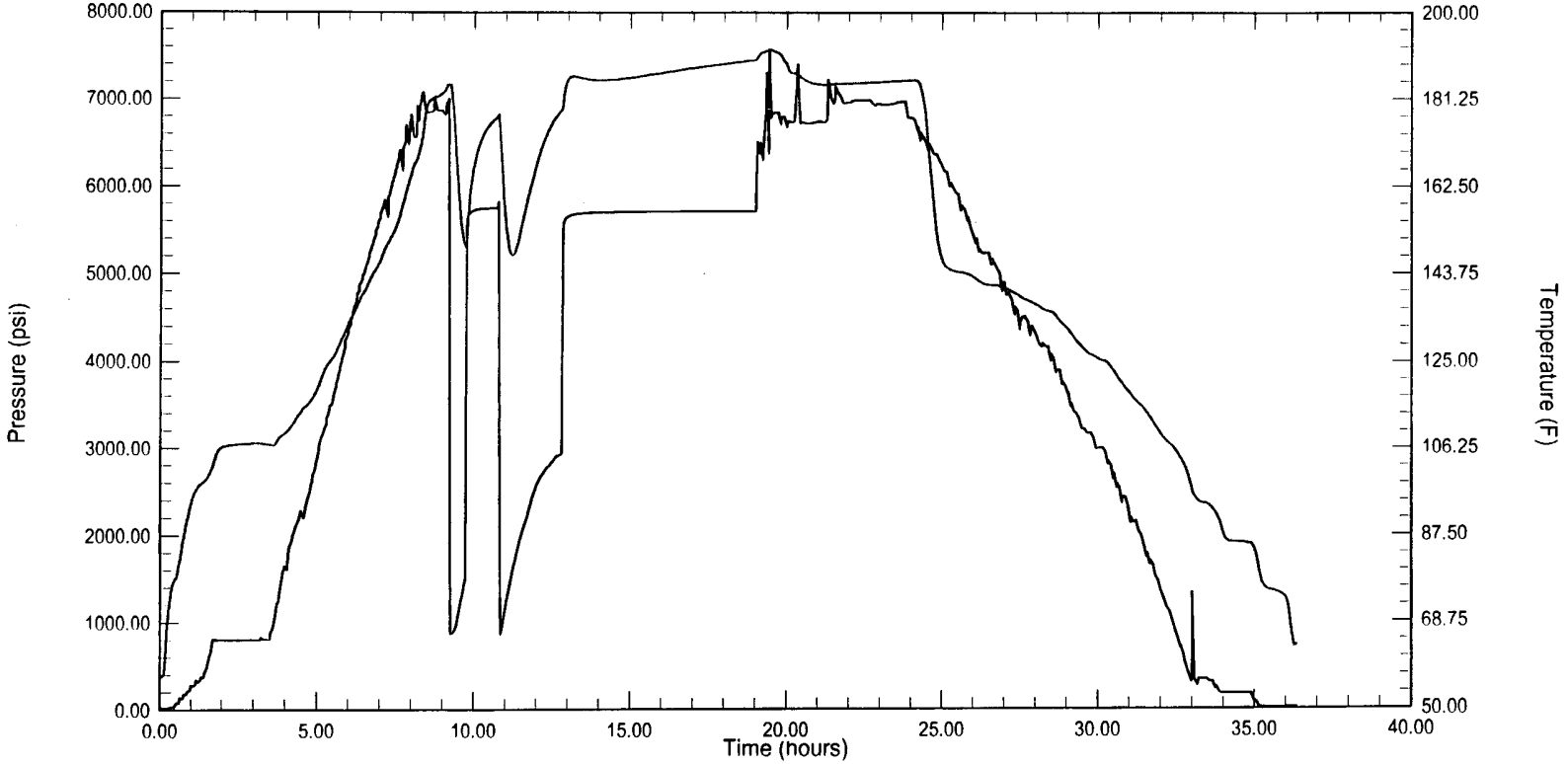
Bottomhole Pressure and Temperature Log



Gauge Depth : 13298 ft TVD - 13298 ft MD

Gauge ID : 1005

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Quicklook Plots

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KEY # ONE	10616127
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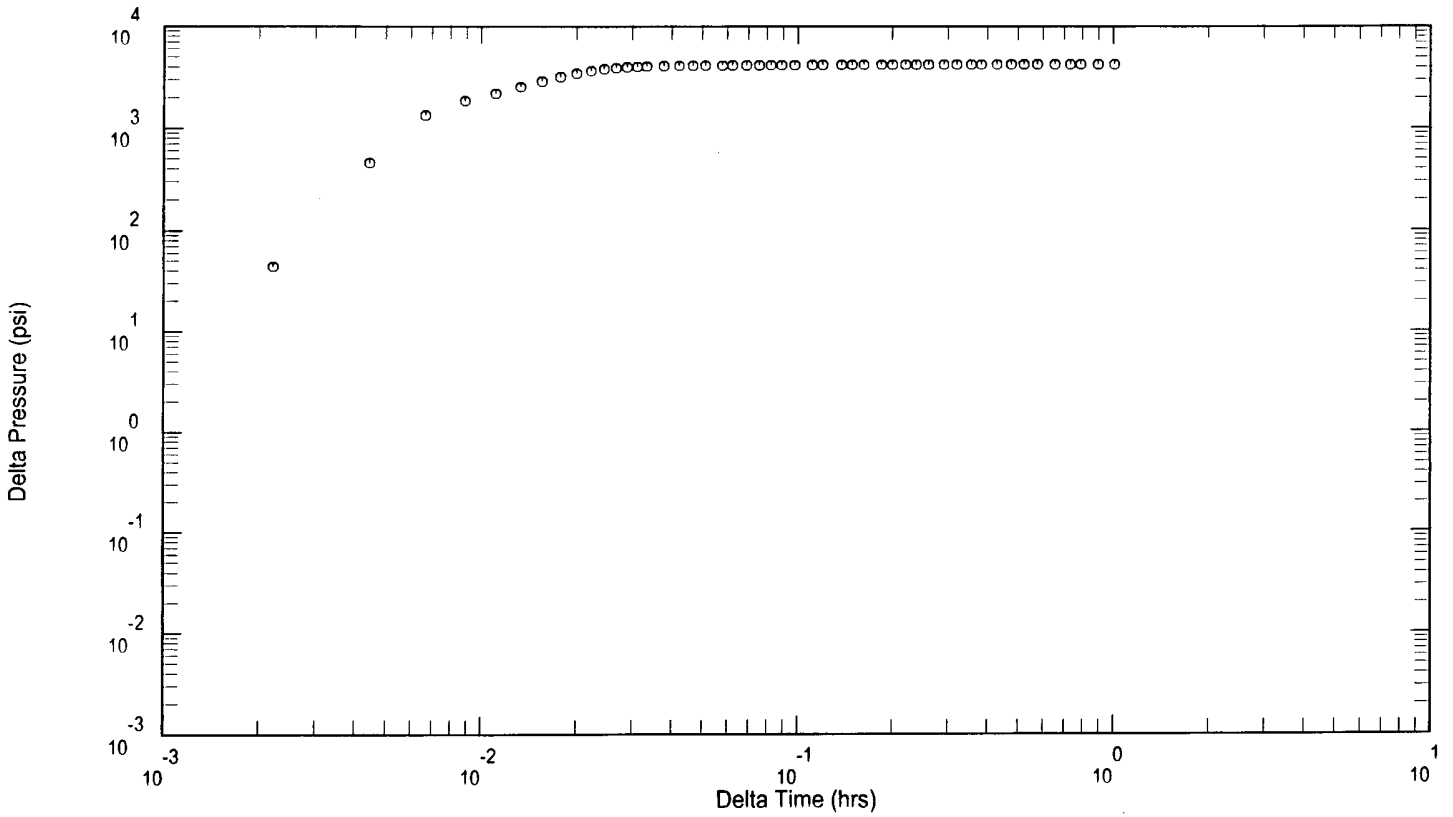
Log-log Plot - Initial Shutin Period



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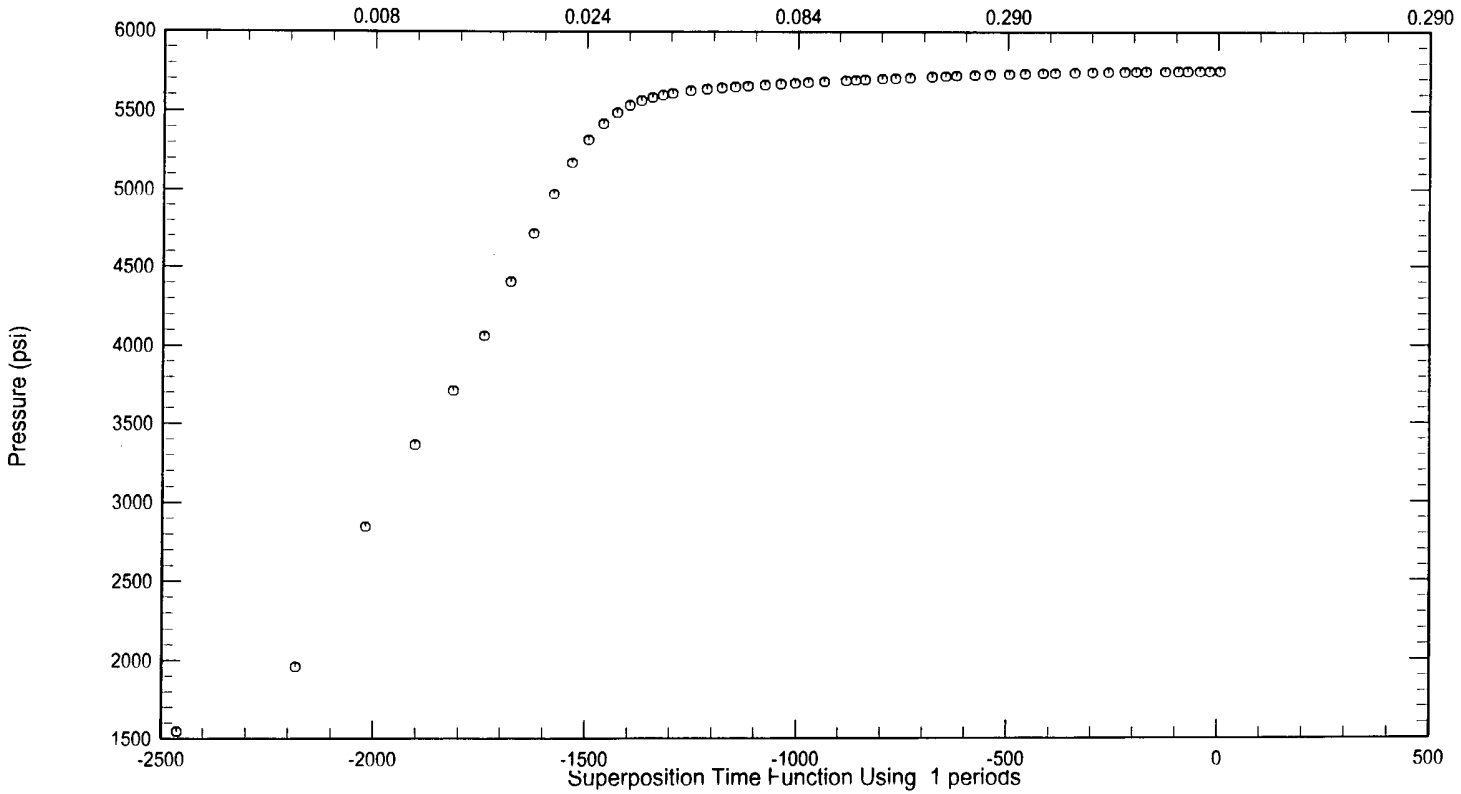
KEY # ONE **10616127**

WILDCAT **APR. 9, 2003**

Semi-log Plot - Initial Shutin Period



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Quicklook Plots

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KEY # ONE	10616127
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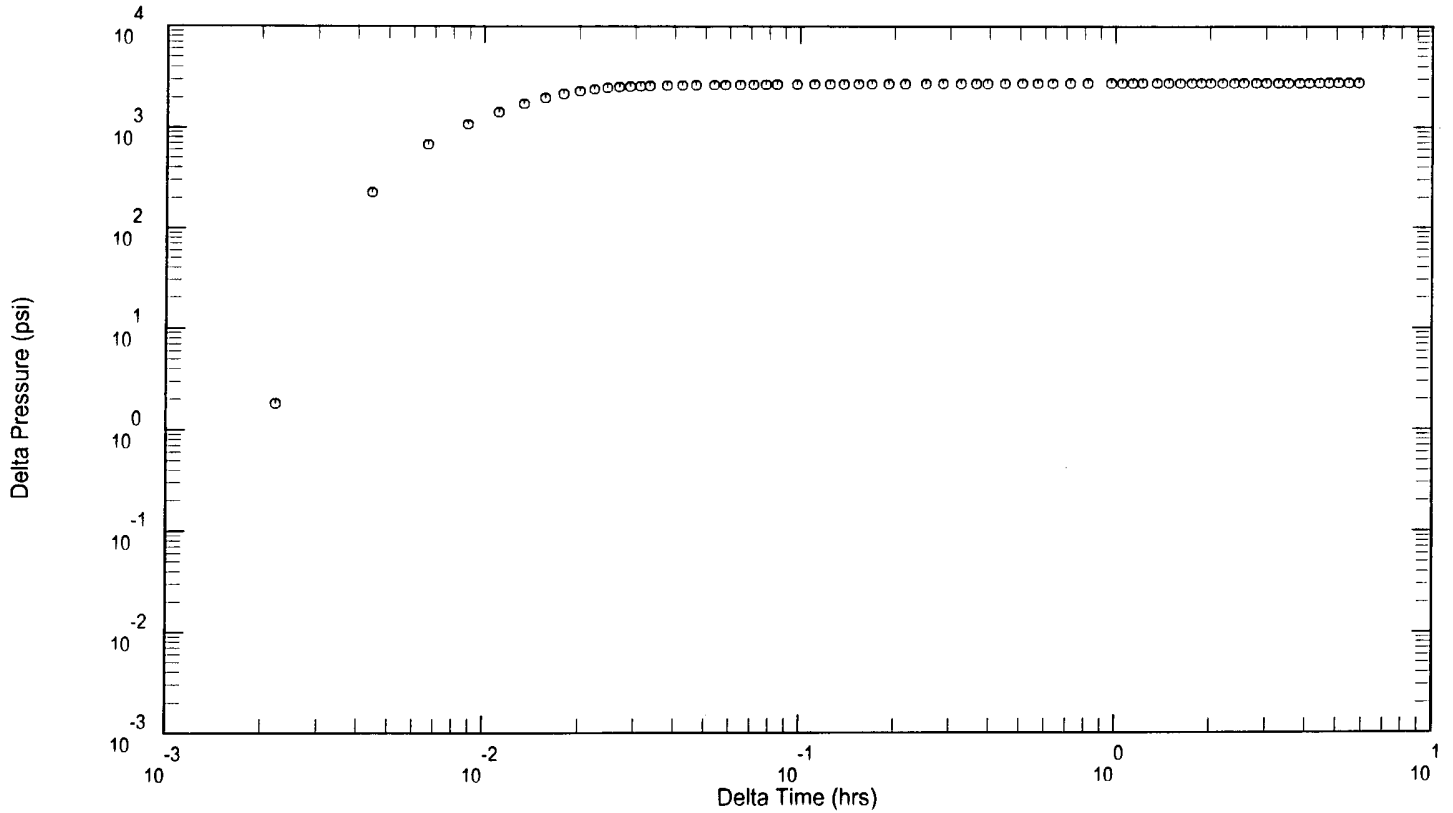
Log-log Plot - Second Shutin Period



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Quicklook Plots

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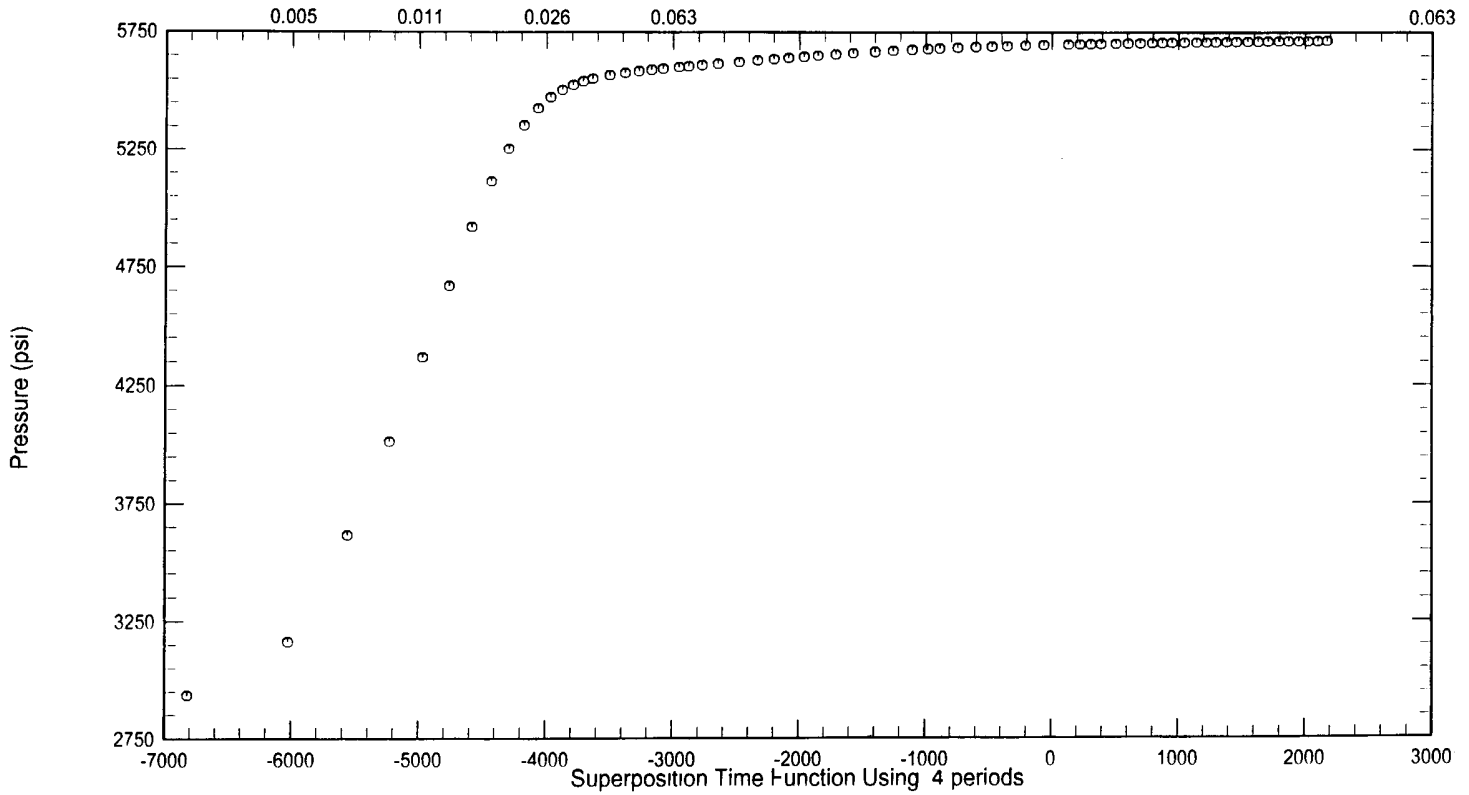
WILDCAT **APR. 9, 2003**

Semi-log Plot - Second Shutin Period



Gauge Depth : 13298 ft TVD - 13298 ft MD

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Label Point Data

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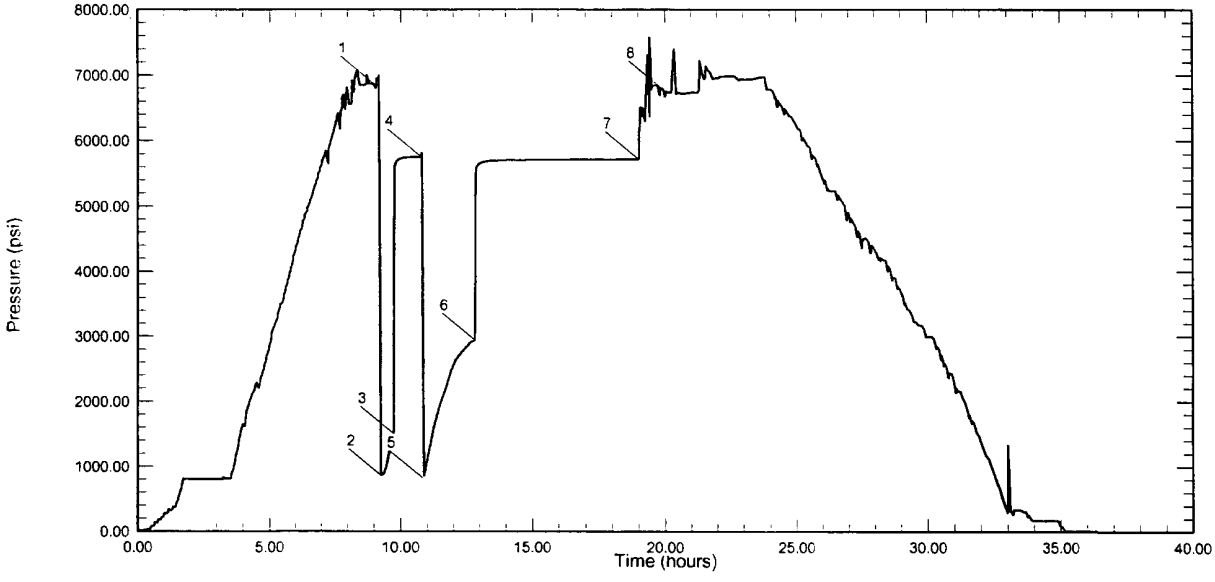

Label Point / Comments	Date (dd-mmm-yy)	Time (hh:mm:ss)	Gauge ET (hours)	BHP (psia)	Rate (0)
Label Point Summary					
1) Hydrostatic Pressure	09-Apr-03	4:12:45	8.996	6864.77	0
2) Start Flow	09-Apr-03	4:31:01	9.300	848.82	1
3) End Flow & Start Shut-in	09-Apr-03	4:57:01	9.734	1502.09	929
4) End Shut-in	09-Apr-03	5:58:45	10.763	5752.82	0
5) Start Flow	09-Apr-03	6:02:45	10.829	819.56	100
6) End Flow & Start Shut-in	09-Apr-03	8:02:05	12.818	2936.35	2743
7) End Shut-in	09-Apr-03	14:13:17	19.005	5714.94	0
8) Hydrostatic Pressure	09-Apr-03	15:06:21	19.889	6797.44	0