



PERMIAN TESTERS, INC.

P.O. BOX 14228
ODESSA, TEXAS 79768

As per
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Hobbs
000

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**



**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 made by any of our agents or employees.

DRILL STEM TEST REPORT DATA

BOTTOM HOLE CHOKE 5/8"		SURFACE 1/8"		CUSHION		ELEVATION 3581'		G.L.	
TIME TOOL OPENED 10:37 Hrs		RECORDER DATA							
TOOL OPEN BEFORE I.S.I.P.		12		MIN.		TYPE Electronic		CAPACITY 10000	
INITIAL SHUT - IN		1		HRS. 3		MIN.		TOP	
TOOL OPEN		1		HRS. 0		MIN.		BOTTOM 21058	
FINAL SHUT - IN		2		HRS. 0		MIN.		CLOCK : TOP	
SURFACE ACTION		<p>Pre-Flow: Began with a weak blow, increased to bottom of bucket in 3 minutes, 13" in 5 minutes, 23" in 10 minutes, 27" in 12 minutes and remained strong thru flow period.</p> <p>Final Flow: Began with a weak 1/2" blow, increased to bottom of bucket in 3 1/2 minutes, 12 1/2" in 5 minutes, 20" in 10 minutes, 26" in 15 minutes, 30" in 20 minutes, 33" in 25 minutes, 35" in 30 minutes; decreased to 34" in 40 minutes, 31" in 50 minutes and 26" in 60 minutes.</p>							
RECOVERY		<p>2160' Slightly gas cut drilling fluid (on top) changing to slightly gas cut formation water = 24.46 bbl.</p> <p>Rw: .07 @ 60 Deg F/86,000 ppm Cl. (26 ppm H2S)</p>							
SUCCESSFUL TEST		Yes							

COMPANY
LEASE NAME & NO.
INTERVAL TESTED

ROCA RESOURCES CO., INC.
MCNEILL #1
5702- 5783'

COUNTY
STATE
FORMATION

LEA
NEW MEXICO
BADDOCK

DATE
TICKET #
TEST #

11-24-2002
7949
2

RECORDER NO. 21058			
A. (INITIAL HYDROSTATIC PRESSURE)		2976	PS.I
B. (INITIAL PRE-FLOW PRESSURE)		161	PS.I
C. (FINAL PRE-FLOW PRESSURE)	11	MIN. 535	PS.I
D. (INITIAL SHUT-IN PRESSURE)	63	MIN. 1919	PS.I
E. (INITIAL FLOW PRESSURE)		542	PS.I
F. (FINAL FLOW PRESSURE)	60	MIN. 1120	PS.I
G. (FINAL SHUT-IN PRESSURE)	120	MIN. 1892	PS.I
H. (FINAL HYDROSTATIC PRESSURE)		2990	PS.I

HOLE AND MUD DATA

TOTAL DEPTH	5783'	MAIN HOLE	7 7/8"
RAT HOLE		CASING SIZE	8 5/8"
DEPTH OF CSG.	1640'	TYPE MUD	Brine/Str
MUD WT.	10.0	VISCOSITY	32
WATER LOSS	11.0	CAKE	1/32
CHLORIDE	184,000		
RESISTMITY	.049	@ 60	°F

TOOL DATA

NO. PACKERS	2			
SIZE PACKERS	7"			
CONVENTIONAL TEST	Yes			
TYPE TOOL	DEPTH	LENGTH	I.D.	O.D.
4 1/2" XH DP	4991		3.8	4.5
4 1/2" XH DC		643	2.3	6.0
Circulating Sub	5635	1		
Drillcollars	5665	30		
Shut-in tool	5671	6		
Sampler	5674	3		
Hydraulic Tool	5679	5		
Jars	5685	6		
Recorder	5690	5		
Packer	5696	6		
Packer	5702	6		
Perfs)		
Elec Recorder		(
Drillcollars)		
Recorder	TD	81		
DRLG CONT. Star Drilling				
RIG# 5				

SAMPLER REPORT

PRESSURE IN SAMPLER	100	PSI
BHT	104.8	°F
Oil:	0	
Water:	2000	
Mud:	0	
Gas:	0	
RESISTIVITY	.07 @ 60	°F
CHLORIDE	86,000	PPM.
GRAVITY	* API @	°F

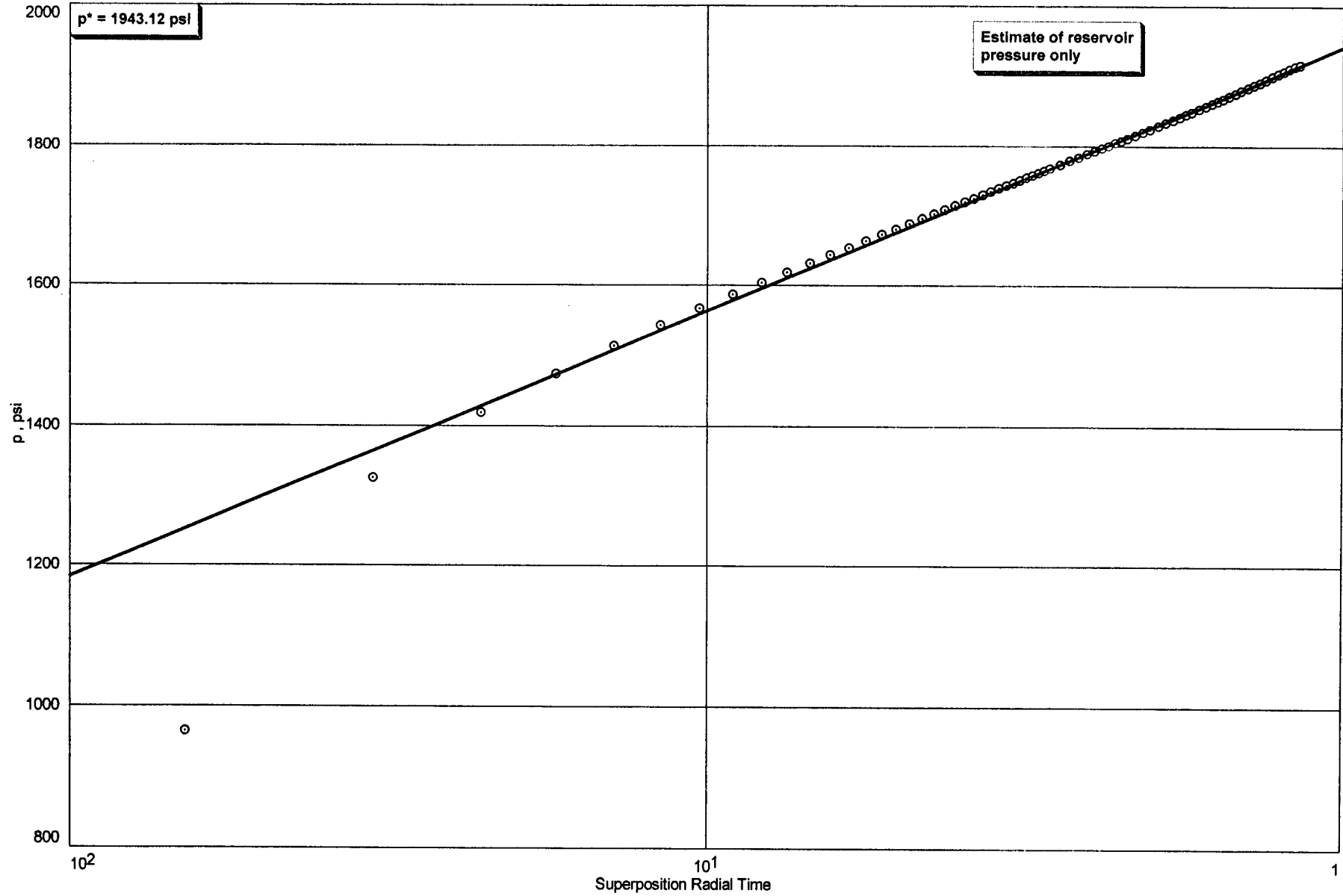
REMARKS:

TESTER Don Terhune
APPROVED BY: Scott Kimbrough

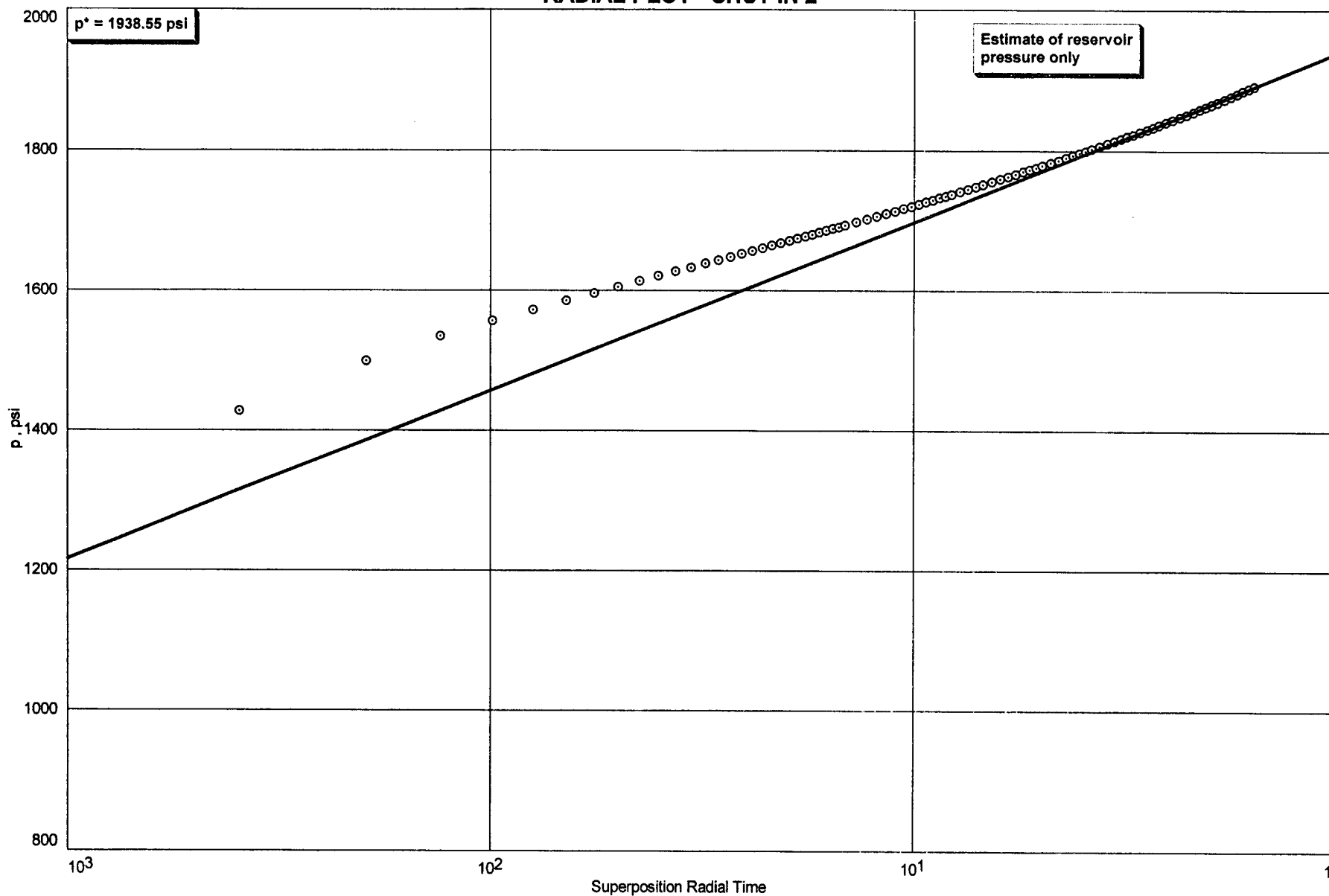


ROCA Resources Co., Inc.
McNeill 1, Dst 2, Gauge 21058

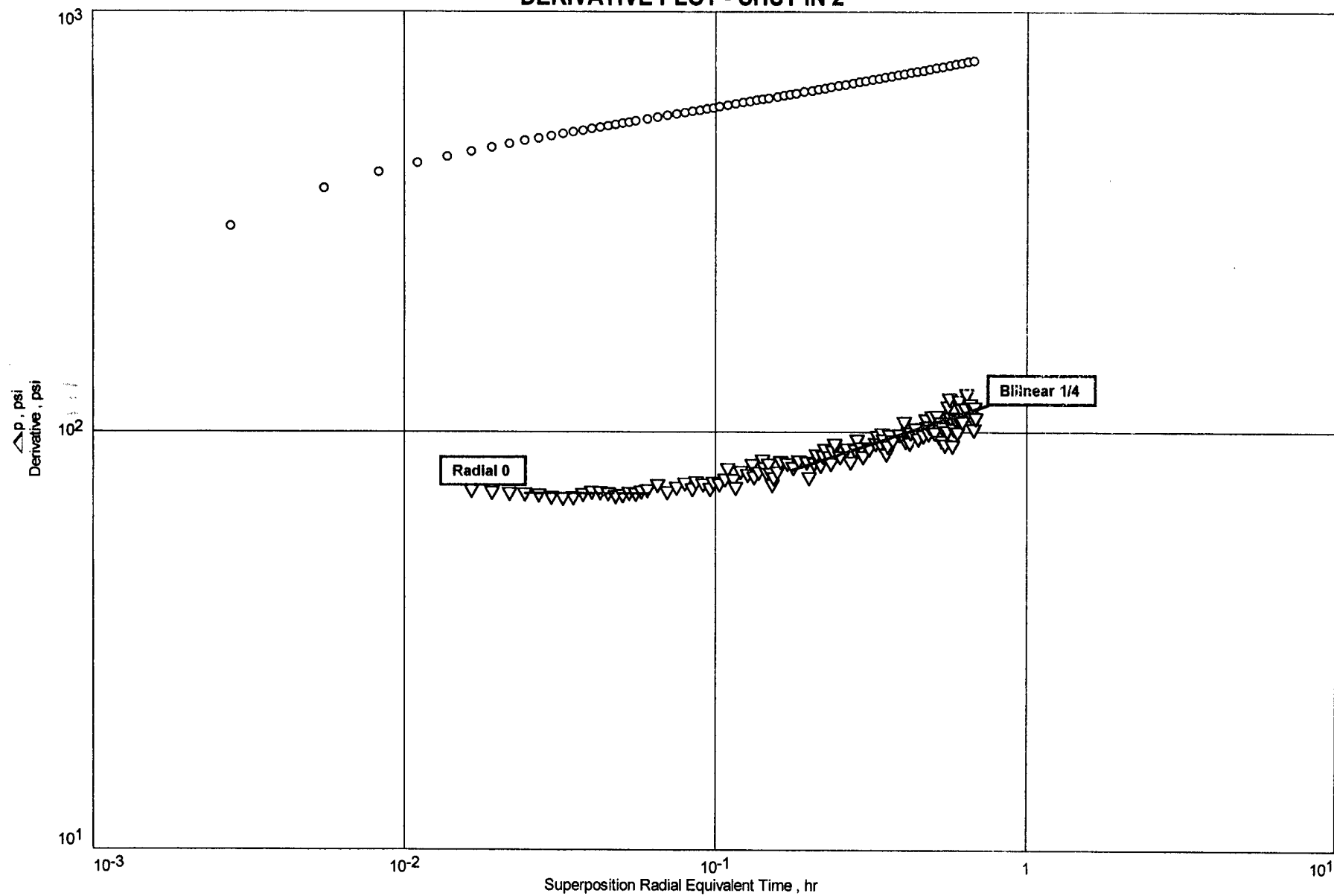
RADIAL PLOT - SHUT IN 1

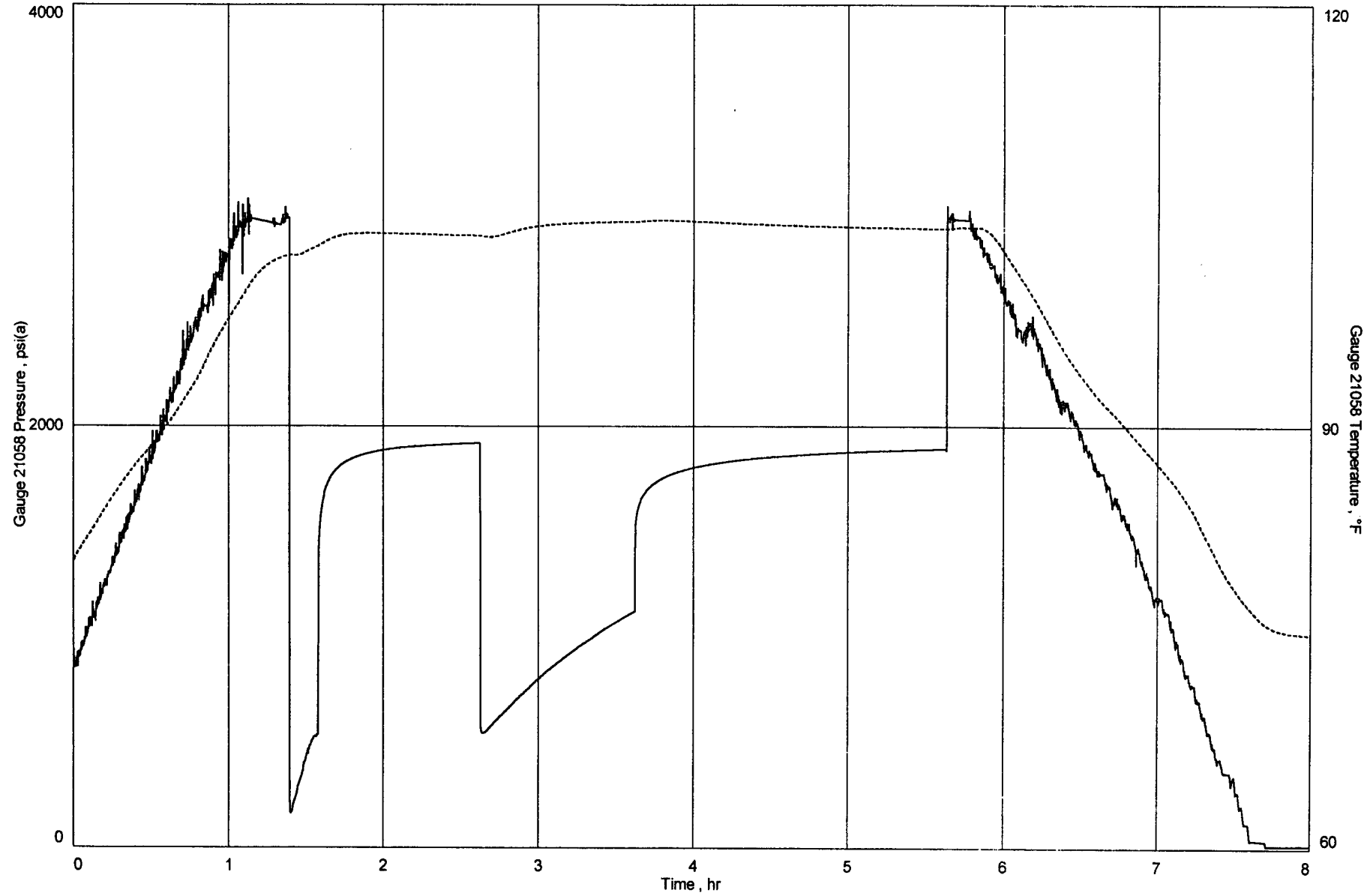


RADIAL PLOT - SHUT IN 2



DERIVATIVE PLOT - SHUT IN 2





ROCA Resources Co., Inc.
McNeill #1

DISTRIBUTION OF FINAL REPORTS

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Midland TX 79702

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.

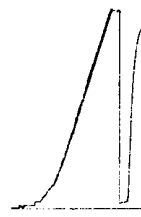


Pre-Flow Period:

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

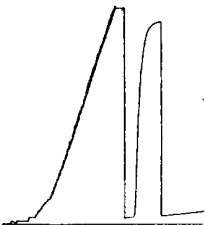
- Approximately 5 minutes in duration if the permeability is estimated to be greater than 15 md.
- Approximately 10 minutes in duration if the permeability is estimated to be less than 15 md.

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.



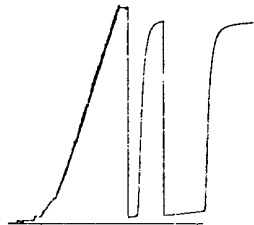
Initial shut-in Period:

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.



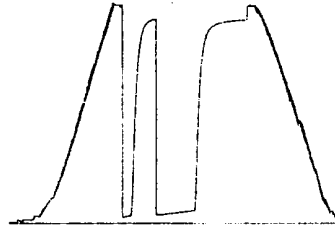
Second Flow Period:

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.



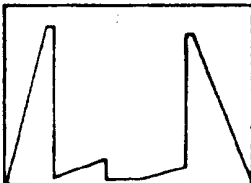
Second Shut-in Period:

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.

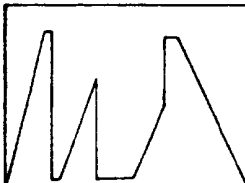


Final Hydrostatic:

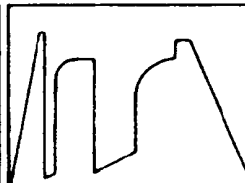
When the second shut-in period is completed the packer is released which allows drilling fluid to flow from the hole into the test zone and the hydrostatic pressure is then recorded. Because the pressure is equalized, the packer can be easily removed from the packer seat. As the test tool is pulled from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



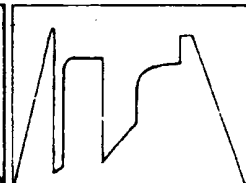
Virtually No Effective Permeability



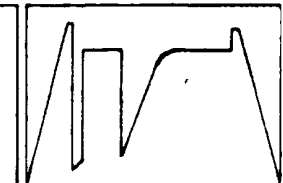
Slightly Higher Permeability



Average Permeability



High Permeability



Excellent Permeability



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