

ARROW TESTING COMPANY
P. O. BOX 1051 GREAT BEND, KANSAS 67530

DRILL-STEM TEST DATA

Well Name	Haberman	Test No.	1
Well Number	3	Zone Tested	Arb
Company	J.A. Allison	Date	10-4-88
Comp. Rep.	O.R. Phelps	Tester	Don Fabricius
Contractor	Woodman-Iannitti Drilling Co.	Ticket No.	2654
Location	24-18-18	Elevation	

Recorder No. 3088 Clock Range 12 Recorder No. 4377 Clock Range 12
 Depth 3717 Depth 3721
 Initial Hydro Mud Press. 1935 Initial Hydro Mud Press. 1924
 Initial Shut-in Press. 1163 Initial Shut-in Press. 1157
 Initial Flow Press. 35-35 Initial Flow Press. 35-35
 Final Flow Press. 58-58 Final Flow Press. 58-58
 Final Shut-in Press. 1151 Final Shut-in Press. 1146
 Final Hydro Mud Press. 1935 Final Hydro Mud Press. 1924
 Temperature 112 Tool Open Before I. S. I. 30 Mins.
 Mud Weight 9.5 Viscosity 45 Initial Shut-in 60 Mins.
 Fluid Loss 10 Flow Period 30 Mins.
 Interval Tested 3698-3725 Final Shut-in 60 Mins.
 Top Packer Depth 3693 Surface Choke Size 1"
 Bottom Packer Depth 3698 Bottom Choke Size 3/4"
 Total Depth 3725 Main Hole Size 7 7/8
 Drill Pipe Size 4 1/2 X H Wt. 16.60 Rubber Size 6 3/4
 Drill Collar I. D. Ft. Run
 Recovery—Total Feet
 Recovered 60 Feet Of muddy oil
 Recovered Feet Of
 Recovered Feet Of
 Recovered Feet Of
 Remarks
 Weak blow thru-test

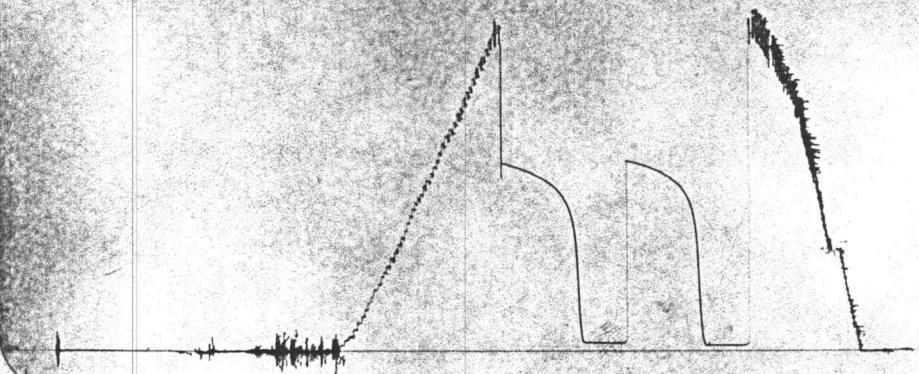
THIS ORDER MUST BE SIGNED BEFORE WORK IS COMMENCED. CONDITIONS: It is expressly understood and agreed that the above described work shall be done under the exclusive control, direction and supervision of the owner or contractor. As a part of the consideration for this agreement, it is expressly understood and agreed that Arrow Testing Company shall not be responsible for damages or losses of any kind whatsoever occasioned by or incident to the use of the above described Tools, whether run or operated by customer, or by anyone employed directly or indirectly by Arrow Testing Company, nor whether resulting from the acts or omissions of Arrow Testing Company, or any of its agents, servants or employees in any way connected with or related to the use of such Tools.

It is expressly understood and agreed that Arrow Testing Company, shall not be bound by any agreement, not herein contained, and no agent or representative connected with or employed by Arrow Testing Company has authority to alter or extend the terms of this agreement. I have read and understand the terms of this agreement and represent that I am authorized to sign the same as agent of customer.

By _____
Owner, Operator or his Agent

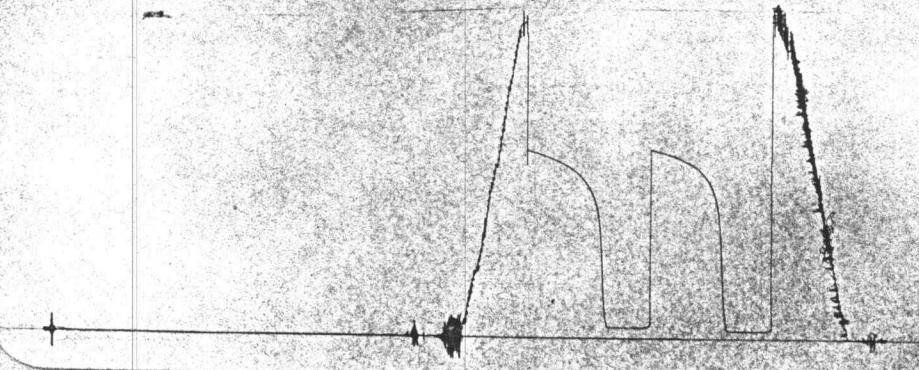
2088

2654



4377

2654



ARROW TESTING COMPANY
P. O. BOX 1051 GREAT BEND, KANSAS 67530

DRILL-STEM TEST DATA

Well Name	Haberman	Test No.	2
Well Number	3	Zone Tested	Arb
Company	J.A. Allison	Date	10-5-88
Comp. Rep.	O.R. Phelps	Tester	Don Fabricius
Contractor	Woodman Iannitti Drilling Co.	Ticket No.	2655
Location	24-18-18	Elevation	

Recorder No.	3088	Clock Range	12	Recorder No.	4377	Clock Range	12
Depth	3721	Depth	3725				
Initial Hydro Mud Press.	1923	Initial Hydro Mud Press.	1924				
Initial Shut-in Press.	1232	Initial Shut-in Press.	1237				
Initial Flow Press.	47-70	Initial Flow Press.	70-70				
Final Flow Press.	94-117	Final Flow Press.	117-129				
Final Shut-in Press.	1220	Final Shut-in Press.	1215				
Final Hydro Mud Press.	1923	Final Hydro Mud Press.	1924				
Temperature	112	Tool Open Before I. S. I.	30	Mins.			
Mud Weight	9.5	Viscosity	45	Initial Shut-in	60	Mins.	
Fluid Loss	10.4			Flow Period	30	Mins.	
Interval Tested	3697-3729			Final Shut-in	60	Mins.	
Top Packer Depth	3692			Surface Choke Size	1"		
Bottom Packer Depth	3697			Bottom Choke Size	3/4"		
Total Depth	3729			Main Hole Size	7 7/8		
Drill Pipe Size	4 1/2 X H	Wt.	16.60	Rubber Size	6 3/4		
Drill Collar I. D.		Ft. Run					
Recovery—Total Feet							
Recovered	120	Feet Of	gas in pipe				
Recovered	208	Feet Of	oil				
Recovered	32	Feet Of	mud				
Recovered		Feet Of					
Remarks							
Weak building to strong blow thru-test							

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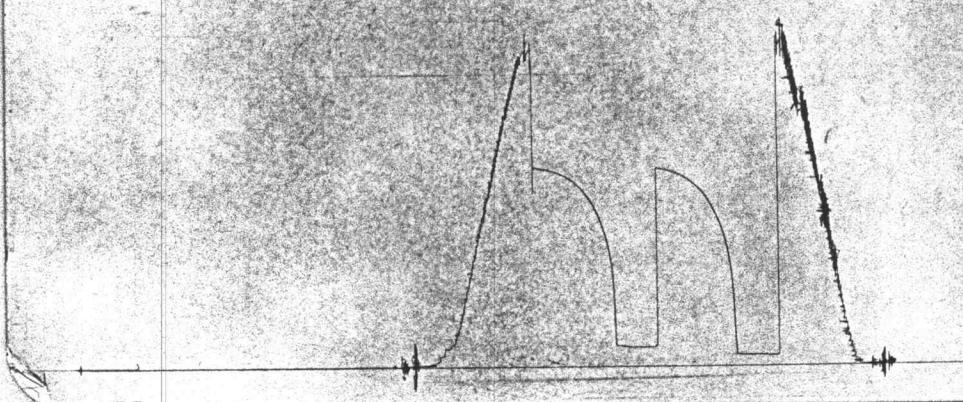
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By

Owner, Operator or his Agent

4327

2655



3088

2655

