

# ***SUPERIOR TESTERS ENTERPRISES INC.***

## ***DRILL STEM TEST REPORT***

**GREAT BEND, KANSAS (316)792-6902**

### **General Information**

Test Company Name ..... SUPERIOR TESTERS ENTERPRISES INC.  
Company Name ..... MIDDLE BAY PRODUCTION COMPANY  
Lease and Well Number ..... STROEMEL #1-13  
Formation Tested ..... MISSISSIPPI  
Test Number ..... 1  
State ..... KANSAS  
County ..... BARBER  
Field .....  
Test Date ..... 18-Dec-98  
Section Town Range ..... 150'N NW-SW-SW 13-32S-10W  
Report Number ..... 13819  
Elevation Ground Level ..... 1467  
Elevation Kelly Bushings ..... 1459  
Company Representative ..... DEAN PATTISON  
Testing Engineer ..... GENE BUDIG

### **Extra Equipment**

Jars ..... NO  
Safety Joint ..... NO  
Extra Packes ..... NO  
Straddle ..... NO  
Hook Wall ..... NO  
Sampler ..... NO  
Circulating Sub ..... NO  
Electronic Recorder ..... YES

### **Well Information**

Drilling Contractor ..... DUKE DRILLING RIG #1  
  
Drill Pipe Length ..... 4329  
Drill Pipe I.D. .... 3.8  
Tool Joint Size ..... 4 1/2 XH  
  
Weight Pipe Length .....  
Weight Pipe I.D. .... 2.76  
Tool Joint Size ..... 4 1/2 X.H.  
  
Drill Collar Length .....  
Drill Collar I.D. .... 2.25  
Tool Joint Size ..... 4 1/2 X.H.  
  
Mud Weight #/gal ..... 9.20  
Viscosity ..... 45.00  
Water Loss ..... 9.6  
Chlorides - Pits ..... 4,500  
Chlorides - DST .....

**SUPERIOR TESTERS ENTERPRISES INC.**

Great Bend, Kansas

**CHART DATA**

(316) 792-6902

**STROEMEL #1-13 MISSISSIPPI**

State ..... KANSAS

Test Date ..... December 18, 1998

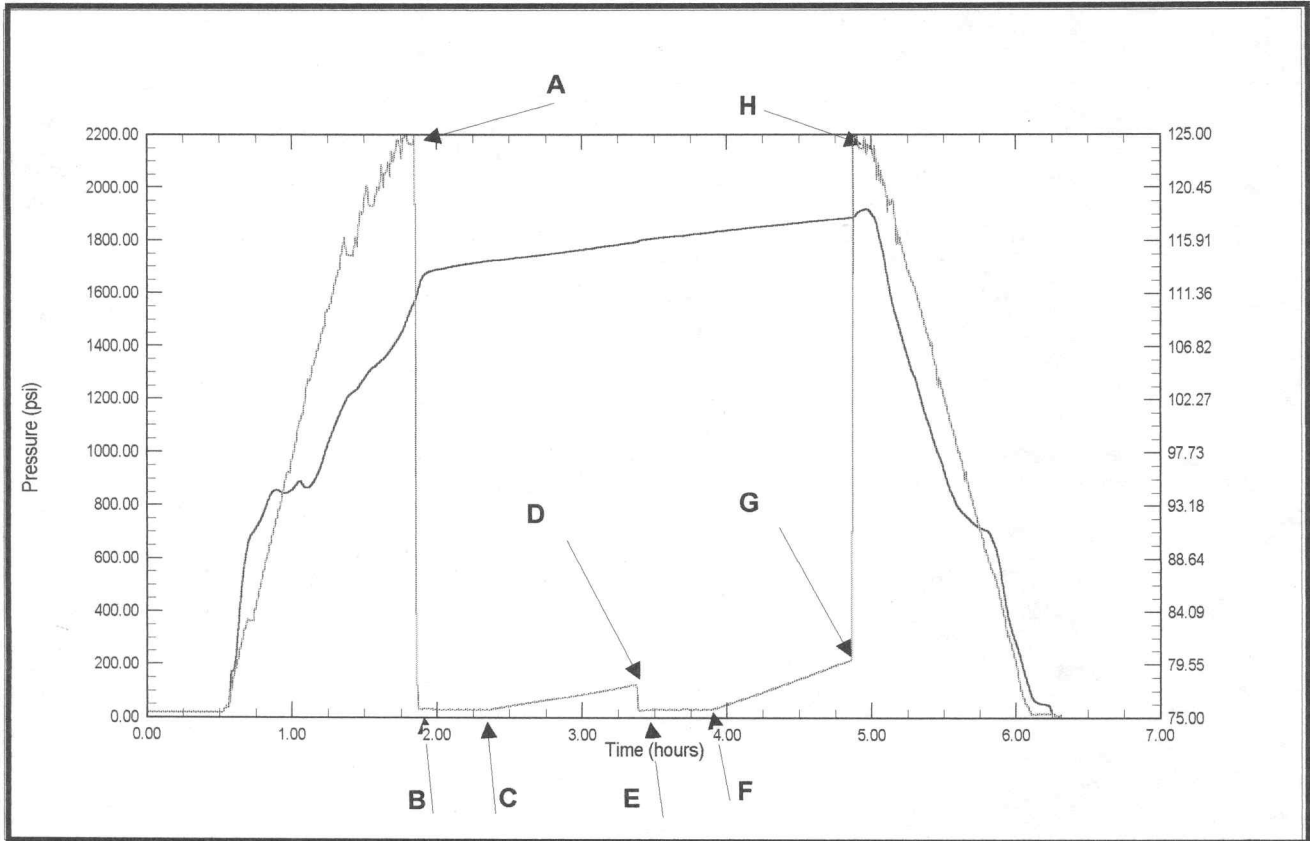
County .....

Sec Town Range ..... 150'N N/W-S/W-S/W

Field .....

Report Number ..... 13819

Company: MIDDLE BAY PRODUCTION COMP. Lease & Well No. STROEMER #1-13 Test #1 Date: 12-18-98  
 13 TWP. 32S RGE. 10W



**Field Reading**

**Office Reading**

(A)	Initial Hydrostatic Pressure	2188	psi
(B)	Initial Flow Pressure	32	psi
(C)	Final Initial Flow Pressure	30	psi
(D)	Initial Shut-In Pressure	124	psi
(E)	Initial Final Flow Pressure	30	psi
(F)	Final Flow Pressure	32	psi
(G)	Final Shut-In Pressure	218	psi
(H)	Final Hydrostatic Pressure	2149	psi

**ELECTRONIC REECORDER DEPTH 4353ft, RECORDER NUMBER 78225**

SEC.

**SUPERIOR TESTERS ENTERPRISES INC.**  
**DRILL STEM TEST REPORT**

**GREAT BEND, KANSAS (316)792-6902**

**Tool Setting Information**

Top Packer Depth ..... 4343  
Bottom packer Depth ..... 4348  
Number of Packers ..... 2  
Packer Size ..... 6 3/4  
  
Test Interval (from ) ..... 4348  
Test Interval (to) ..... 4360.00  
Anchor Length ..... 1  
Total Depth (ft) ..... 4360  
Hole Size (in) ..... 7 7/8

**Pressure Readings**

	<i>Field Reading</i>	<i>Office Reading</i>
Maximum Temp .....	118	
Initial Hydrostatic Pressure .....	2188	
Initial Flow Pressure .....	32	
Final Initial Flow Pressure .....	30	
Initial Shut-In Pressure .....	124	
Initial Final Flow Pressure .....	30	
Final Flow Pressure .....	32	
Final Shut-In Pressure .....	218	
Final Hydrostatic Pressure .....	2149	
Electronic Recorder Depth .....	4353	
Recorder Number .....	78225	
Mechanical Recorder Depth .....	4357	
Recorder Number .....	5463	

**Comments**

[Empty box for comments]

# SUPERIOR TESTERS ENTERPRISES INC. DRILL STEM TEST REPORT

GREAT BEND, KANSAS (316)792-6902

### Flow Times

*Initial Open*

Tool Open (from) ..... 8:30  
 Tool Open (to) ..... 9:00  
 Duration (min) ..... 30

*Initial Shut-in*

Tool Closed (from) ..... 9:00  
 Tool Closed (to) ..... 10:00  
 Duration (min) ..... 60

*Final Open*

Tool Open (from) ..... 10:00  
 Tool Open (to) ..... 10:30  
 Duration (min) ..... 30

*Final Shut-in*

Tool Closed (from) ..... 10:30  
 Tool Closed (to) ..... 11:30  
 Duration (min) ..... 60

### Recovery Description

Initial Blow ..... WEAK BLOW BUILT TO 2 INCHES INTO THE WATER  
 DECREASED AND DIED IN 2 MINUTES

Final Blow ..... VERY WEAK SURFACE BLOW THROUGH OUT

Description	Feet of Recovery	% Gas	% Oil	% Mud	% Water
1) GAS IN THE PIPE	75				
2) DRILLING MUD	15				
3)					
4)					
5)					
6)					
7)					
8)					
9)					
10)					
11)					
12)					
13)					
14)					
15)					
<b>Total</b>	<b>90</b>				

#2

# SUPERIOR TESTERS ENTERPRISES INC. DRILL STEM TEST REPORT

GREAT BEND, KANSAS (316)792-6902

## General Information

Test Company Name ..... SUPERIOR TESTERS ENTERPRISES INC.  
 Company Name ..... MIDDLE BAY PRODUCTION COMPANY  
 Lease and Well Number ..... STROEMER #1-13  
 Formation Tested ..... MISSISSIPPI  
 Test Number ..... 2  
 State ..... KANSAS  
 County ..... BARBER  
 Field .....  
 Test Date ..... 18-Dec-98  
 Section Town Range ..... 150'N-N/W-S/W-S/W 13-32S-10W  
 Report Number ..... 13820  
 Elevation Ground Level ..... 1467  
 Elevation Kelly Bushings ..... 1475  
 Company Representative ..... DEAN PATTISON  
 Testing Engineer ..... GENE BUDIG

## Extra Equipment

Jars ..... NO  
 Safety Joint ..... NO  
 Extra Packes ..... NO  
 Straddle ..... NO  
 Hook Wall ..... NO  
 Sampler ..... NO  
 Circulating Sub ..... NO  
 Electronic Recorder ..... YES

## Well Information

Drilling Contractor ..... DUKE DRILLING RIG #1

Drill Pipe Length ..... 4341  
 Drill Pipe I.D. .... 3.8  
 Tool Joint Size ..... 4 1/2 XH

Weight Pipe Length .....  
 Weight Pipe I.D. .... 2.76  
 Tool Joint Size ..... 4 1/2 X.H.

Drill Collar Length .....  
 Drill Collar I.D. .... 2.25  
 Tool Joint Size ..... 4 1/2 X.H.

Mud Weight #/gal ..... 9.20  
 Viscosity ..... 45.00  
 Water Loss ..... 9.6  
 Chlorides - Pits ..... 4,500  
 Chlorides - DST .....

**SUPERIOR TESTERS ENTERPRISES INC.**

Great Bend, Kansas

**CHART DATA**

(316) 792-6902

**STROEMER #1-13 MISSISSIPPI**

State ..... KANSAS

Test Date ..... December 18, 1998

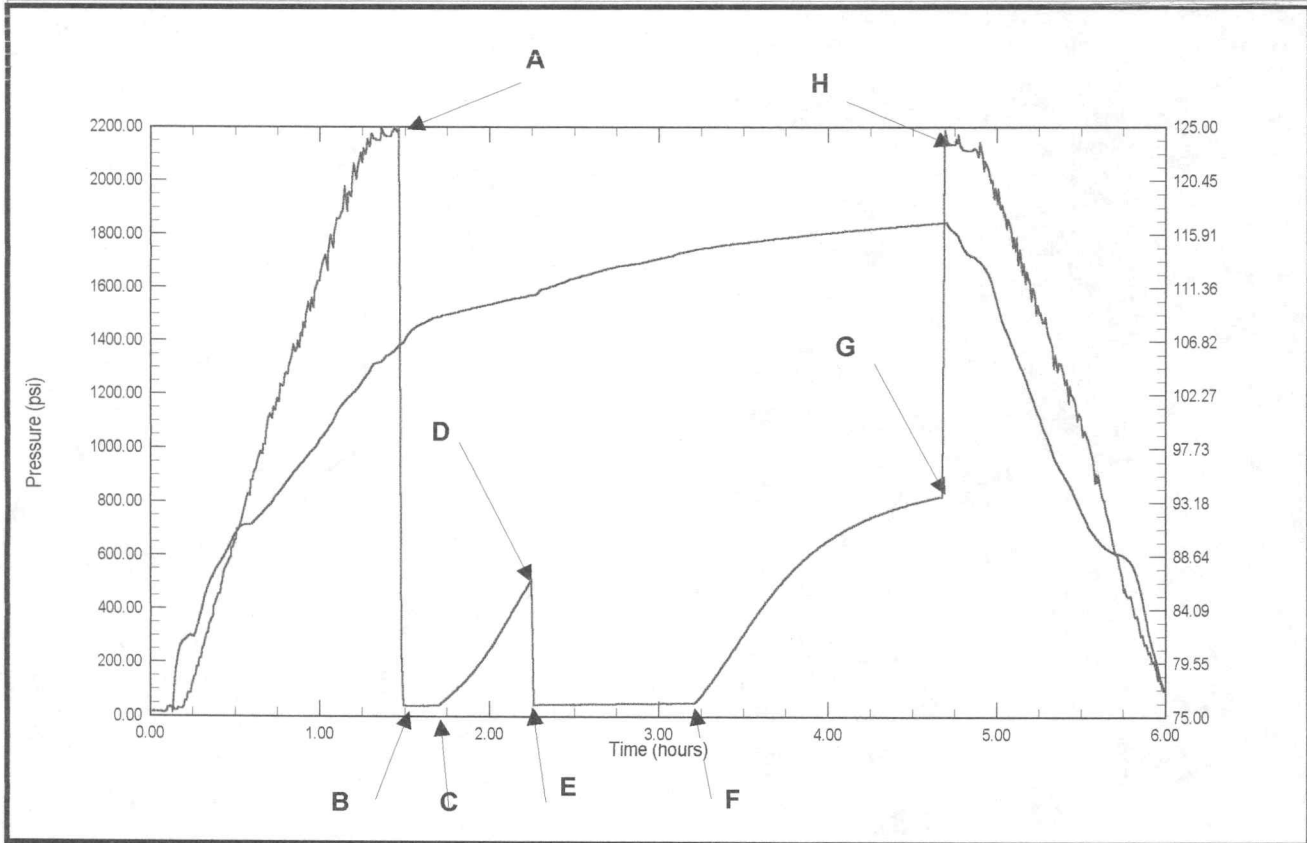
County .....

Sec Town Range ..... 150'N-N/W-S/W-S/W 1

Field .....

Report Number ..... 13820

Company: MIDDLE BAY PRODUCTION COMP. Lease & Well No. STROEMEL #1-13 Test # 2 Date: 12-18-1998  
 SEC. 13 TWP. 32S RGE. 10W



**Field Reading**

**Office Reading**

(A)	Initial Hydrostatic Pressure	2187	psi
(B)	Initial Flow Pressure	36	psi
(C)	Final Initial Flow Pressure	40	psi
(D)	Initial Shut-In Pressure	512	psi
(E)	Initial Final Flow Pressure	43	psi
(F)	Final Flow Pressure	49	psi
(G)	Final Shut-In Pressure	820	psi
(H)	Final Hydrostatic Pressure	2135	psi

**ELECTRONIC REECORDER DEPTH 4370ft, RECORDER NUMBER 78225**

# ***SUPERIOR TESTERS ENTERPRISES INC.***

## ***DRILL STEM TEST REPORT***

**GREAT BEND, KANSAS (316) 792-6902**

### **Tool Setting Information**

Top Packer Depth ..... 4355  
Bottom packer Depth ..... 4360  
Number of Packers ..... 2  
Packer Size ..... 6 3/4

Test Interval (from ) ..... 4360  
Test Interval (to) ..... 4377.00  
Anchor Length ..... 17  
Total Depth (ft) ..... 4377  
Hole Size (in) ..... 7 7/8

### **Pressure Readings**

	<i>Field Reading</i>	<i>Office Reading</i>
Maximum Temp .....	117	
Initial Hydrostatic Pressure .....	2187	
Initial Flow Pressure .....	36	
Final Initial Flow Pressure .....	40	
Initial Shut-In Pressure .....	512	
Initial Final Flow Pressure .....	43	
Final Flow Pressure .....	49	
Final Shut-In Pressure .....	820	
Final Hydrostatic Pressure .....	2135	
Electronic Recorder Depth .....	4370	
Recorder Number .....	78225	
Mechanical Recorder Depth .....	4374	
Recorder Number .....	5463	

### **Comments**

# SUPERIOR TESTERS ENTERPRISES INC.

## DRILL STEM TEST REPORT

GREAT BEND, KANSAS (316) 792-6902

### Flow Times

*Initial Open*  
 Tool Open (from) ..... 10:00  
 Tool Open (to) ..... 10:15  
 Duration (min) ..... 15

*Initial Shut-in*  
 Tool Closed (from) ..... 10:15  
 Tool Closed (to) ..... 10:45  
 Duration (min) ..... 30

*Final Open*  
 Tool Open (from) ..... 10:45  
 Tool Open (to) ..... 11:45  
 Duration (min) ..... 60

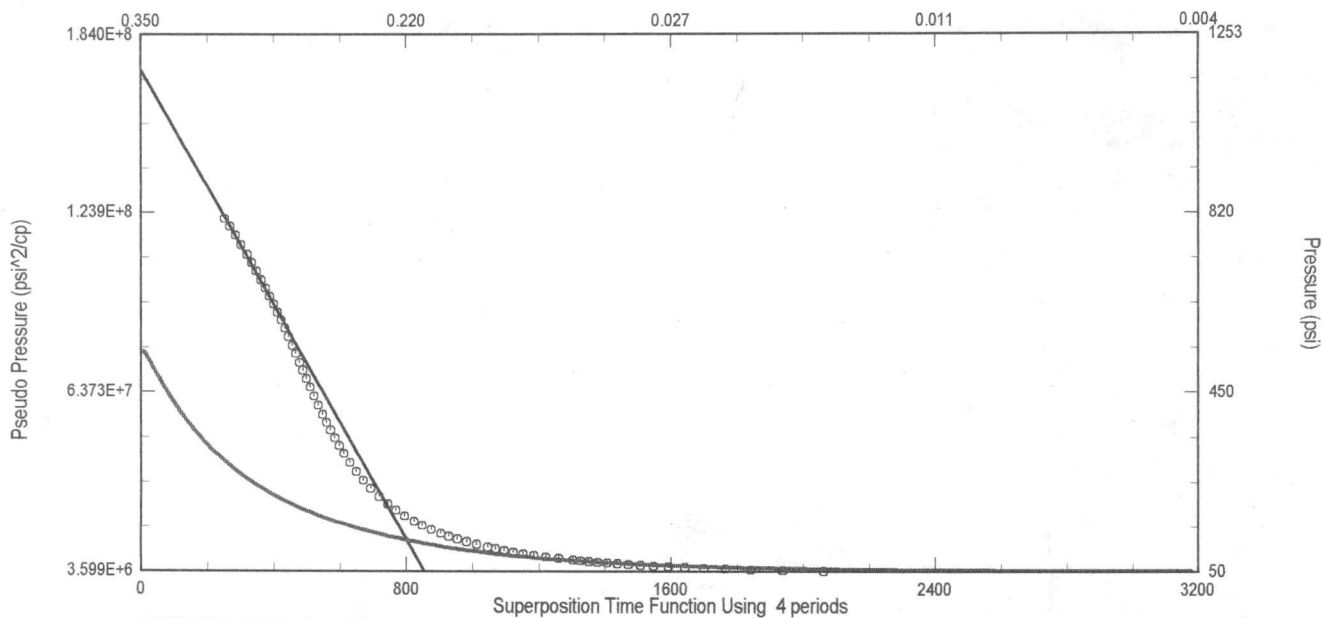
*Final Shut-in*  
 Tool Closed (from) ..... 11:45  
 Tool Closed (to) ..... 1:45  
 Duration (min) ..... 90

### Recovery Description

Initial Blow ..... WEAK BLOW BUILT TO 6 INCHES INTO THE WATER

Final Blow ..... WEAK BLOW BUILT TO A 6 INCH STEADY BLOW

Description	Feet of Recovery	% Gas	% Oil	% Mud	% Water
1) GAS IN THE PIPE	450				
2) DRILLING MUD WITH A SHOW OIL BETWEEN	45				
3) THE SHUT-IN AND HYDROLIC TOOLS					
4)					
5)					
6)					
7)					
8)					
9)					
10)					
11)					
12)					
13)					
14)					
15)					
<b>Total</b>	495				



Constant Storage C1 : 0.034 bbl/psi	Skin Model Skin : -1.20	Homogeneous k : 0.583 md	No Boundaries	h : 10 ft mu : 0.055 cp phi : 0.18 % ct : 2.766E-03 1/psi rw : 0.535 ft
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Field :  
County or Parish :  
State :

Date : 19-Dec-98 03:53:30  
Analysis Period : END FLOW - 2ND SHUT-IN  
Identifier : Line #

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Superposition Slope -> m' ..... -1.974127E+5  
Horner Slope -> m ..... -1.974127E+8  
Intercept ..... 1.722E+8  
P(dt=1 hr) ..... 1.104E+8  
Pwf ..... 3.599E+6  
R Sqr ..... 0.9975

Intercept (psi) ..... 1165.862  
k (md) ..... 0.47846  
kh (md-ft) ..... 4.78464  
k/u (md/cp) ..... 8.71519  
kh/uB (md-ft/cp) ..... 87.15195  
Skin ..... -1.1718  
DP Skin ..... -1359.3573  
Total DP ..... 1116.0109  
Percent DP ..... -121.81%

Radius Invest (ft) ..... 5  
Radius Time (hrs) ..... 1.46

Delta Q = ..... 1000  
h (ft)= ..... 10  
mu (cp) = ..... 0.0549  
B (stb/scf) = ..... 0.0007

First Point # ..... 209  
Second Point # ..... 300  
Start Real Time ..... 0.630  
End Real Time ..... 1.464  
Start SF Time ..... 425.288

# **SUPERIOR TESTERS ENTERPRISES INC.**

## **DRILL STEM TEST REPORT**

**GREAT BEND, KANSAS (316) 792-6902**

### **General Information**

Test Company Name ..... SUPERIOR TESTERS ENTERPRISES INC.  
Company Name ..... MIDDLE BAY PRODUCTION COMPANY  
Lease and Well Number ..... STROEMEL #1-13  
Formation Tested ..... MISSISSIPPI  
Test Number ..... 3  
State ..... KANSAS  
County ..... BARBER  
Field .....  
Test Date ..... 19-Dec-98  
Section Town Range ..... 150°N N/W-S/W-S/W 13-32S-10W  
Report Number ..... 13821  
Elevation Ground Level ..... 1457  
Elevation Kelly Bushings ..... 1465  
Company Representative ..... DEAN PATTISON  
Testing Engineer ..... GENE BUDIG

### **Extra Equipment**

Jars ..... NO  
Safety Joint ..... NO  
Extra Packes ..... NO  
Straddle ..... NO  
Hook Wall ..... NO  
Sampler ..... NO  
Circulating Sub ..... NO  
Electronic Recorder ..... YES

### **Well Information**

Drilling Contractor ..... DUKE DRILLING RIG #1  
  
Drill Pipe Length ..... 4358  
Drill Pipe I.D. .... 3.8  
Tool Joint Size ..... 4 1/2 XH  
  
Weight Pipe Length .....  
Weight Pipe I.D. .... 2.76  
Tool Joint Size ..... 4 1/2 X.H.  
  
Drill Collar Length .....  
Drill Collar I.D. .... 2.25  
Tool Joint Size ..... 4 1/2 X.H.  
  
Mud Weight #/gal ..... 9.1+  
Viscosity ..... 50  
Water Loss ..... 10.8  
Chlorides - Pits ..... 5,200  
Chlorides - DST .....

**SUPERIOR TESTERS ENTERPRISES INC.**

Great Bend, Kansas

**CHART DATA**

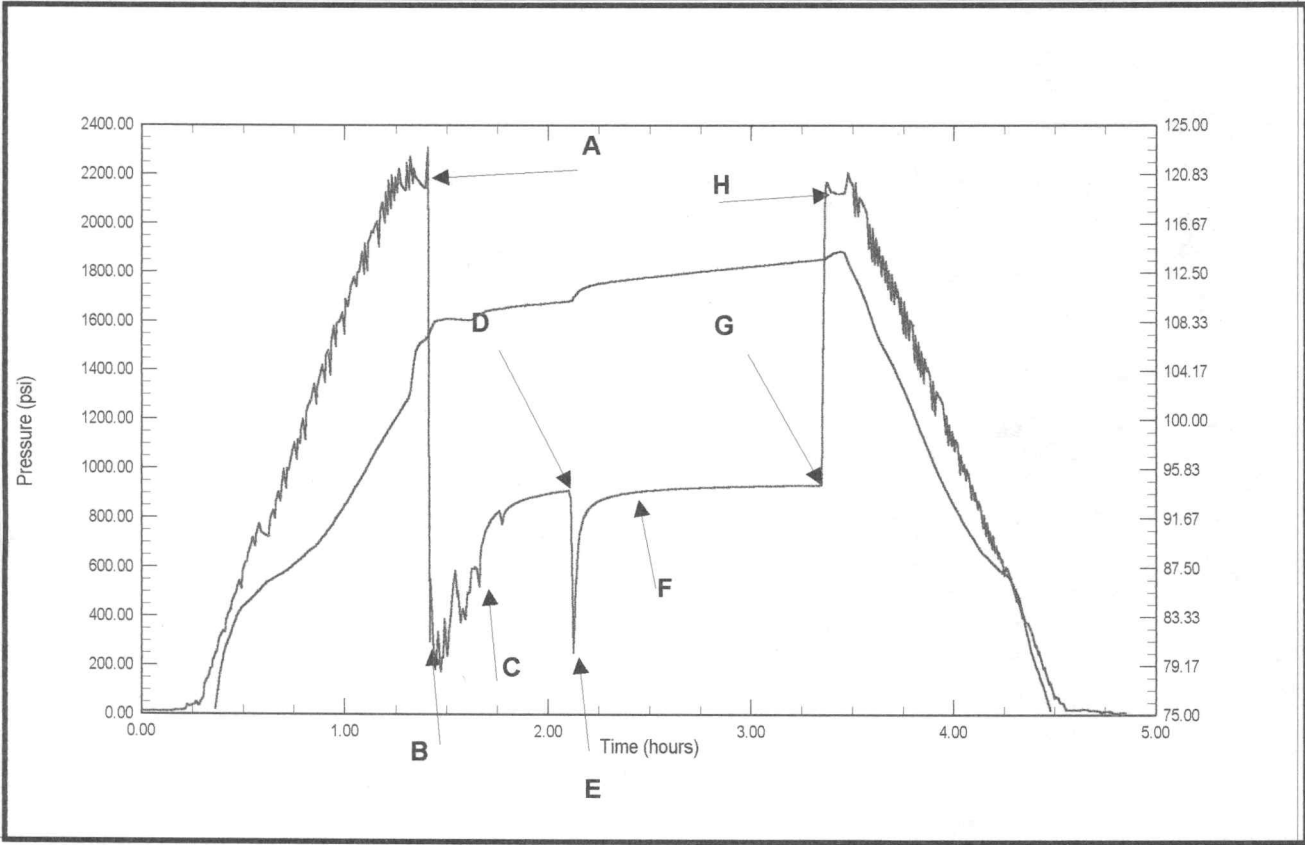
(316) 792-6902

**STROEMEL #1-13 MISSISSIPPI**

State ..... KANSAS  
 County .....  
 Field .....

Test Date ..... December 19, 1998  
 Sec Town Range ..... 150'N N/W-S/W-S/W 1  
 Report Number ..... 13821

Company: MIDDLE BAY PRODUCTION COMP. Lease & Well No. STROEMEL #1-13 Test # 3 Date: 12-19-1998  
 SEC. 13 TWP. 32S RGE. 10W



**Field Reading**

**Office Reading**

(A)	Initial Hydrostatic Pressure	2189	psi
(B)	Initial Flow Pressure	281	psi
(C)	Final Initial Flow Pressure	625	psi
(D)	Initial Shut-In Pressure	911	psi
(E)	Initial Final Flow Pressure	227	psi
(F)	Final Flow Pressure	896	psi
(G)	Final Shut-In Pressure	934	psi
(H)	Final Hydrostatic Pressure	2122	psi

**ELECTRONIC REECORDER DEPTH4380ft,RECORDER NUMBER78225**

**SUPERIOR TESTERS ENTERPRISES INC.**  
**DRILL STEM TEST REPORT**

GREAT BEND, KANSAS (316)792-6902

**Tool Setting Information**

Top Packer Depth ..... 4372  
Bottom packer Depth ..... 4377  
Number of Packers ..... 2  
Packer Size ..... 6 3/4

Test Interval (from ) ..... 4377  
Test Interval (to) ..... 4387  
Anchor Length ..... 10  
Total Depth (ft) ..... 4387  
Hole Size (in) ..... 7 7/8

**Pressure Readings**

	<i>Field Reading</i>	<i>Office Reading</i>
Maximum Temp .....	114	
Initial Hydrostatic Pressure .....	2189	
Initial Flow Pressure .....	281	
Final Initial Flow Pressure .....	625	
Initial Shut-In Pressure .....	911	
Initial Final Flow Pressure .....	227	
Final Flow Pressure .....	896	
Final Shut-In Pressure .....	934	
Final Hydrostatic Pressure .....	2122	
Electronic Recorder Depth .....	4380	
Recorder Number .....	78225	
Mechanical Recorder Depth .....	4384	
Recorder Number .....	5463	

**Comments**

SLID TOOL 12 FEET TO BOTTOM PLUGGED TEST TOOL AND ANCHOR MISS-RUN

# **SUPERIOR TESTERS ENTERPRISES INC.**

## **DRILL STEM TEST REPORT**

**GREAT BEND, KANSAS (316)792-6902**

**Flow Times**

*Initial Open*  
 Tool Open (from) ..... 10:45  
 Tool Open (to) ..... 11:00  
 Duration (min) ..... 0:15

*Initial Shut-in*  
 Tool Closed (from) ..... 11:00  
 Tool Closed (to) ..... 11:30  
 Duration (min) ..... 0:30

*Final Open*  
 Tool Open (from) ..... 11:30  
 Tool Open (to) ..... 11:45  
 Duration (min) ..... 0:15

*Final Shut-in*  
 Tool Closed (from) ..... 11:45  
 Tool Closed (to) ..... 12:45  
 Duration (min) ..... 1:00

**Recovery Description**

Initial Blow ..... VERY WEAK BLOW THROUGH OUT

Final Blow ..... VERY WEAK BLOW FOR 5 MINUTES AND DIED

<b>Description</b>	<b>Feet of Recovery</b>	<b>% Gas</b>	<b>% Oil</b>	<b>% Mud</b>	<b>% Water</b>
1) HEAVY THICK DRILLING MUD	20				
2)					
3)					
4)					
5)					
6)					
7)					
8)					
9)					
10)					
11)					
12)					
13)					
14)					
15)					
<b>Total</b>	<b>20</b>				

# ***SUPERIOR TESTERS ENTERPRISES INC.***

## ***DRILL STEM TEST REPORT***

**GREAT BEND, KANSAS (316)792-6902**

### **General Information**

Test Company Name ..... SUPERIOR TESTERS ENTERPRISES INC.  
Company Name ..... MIDDLE BAY PRODUCTION COMPANY  
Lease and Well Number ..... STROEMEL #1-13  
Formation Tested ..... MISSISSIPPI  
Test Number ..... 4  
State ..... KANSAS  
County ..... BARBER  
Field .....  
Test Date ..... 19-Dec-98  
Section Town Range ..... 150'N-N/W-S/W-S/W 13-32S-10W  
Report Number ..... 13822  
Elevation Ground Level ..... 1457  
Elevation Kelly Bushings ..... 1465  
Company Representative ..... DEAN PATTISON  
Testing Engineer ..... GENE BUDIG

### **Extra Equipment**

Jars ..... NO  
Safety Joint ..... NO  
Extra Packers ..... NO  
Straddle ..... NO  
Hook Wall ..... NO  
Sampler ..... NO  
Circulating Sub ..... NO  
Electronic Recorder ..... YES

### **Well Information**

Drilling Contractor ..... DUKE DRILLING RIG #1  
  
Drill Pipe Length ..... 4331  
Drill Pipe I.D. .... 3.8  
Tool Joint Size ..... 4 1/2 XH  
  
Weight Pipe Length .....  
Weight Pipe I.D. .... 2.76  
Tool Joint Size ..... 4 1/2 X.H.  
  
Drill Collar Length .....  
Drill Collar I.D. .... 2.25  
Tool Joint Size ..... 4 1/2 X.H.  
  
Mud Weight #/gal ..... 9.1+  
Viscosity ..... 50  
Water Loss ..... 10.8  
Chlorides - Pits ..... 5,200  
Chlorides - DST .....

**SUPERIOR TESTERS ENTERPRISES INC.**

Great Bend, Kansas

**CHART DATA**

(316) 792-6902

**STROEMEL #1-13 MISSISSIPPI**

State ..... KANSAS

Test Date ..... December 19, 1998

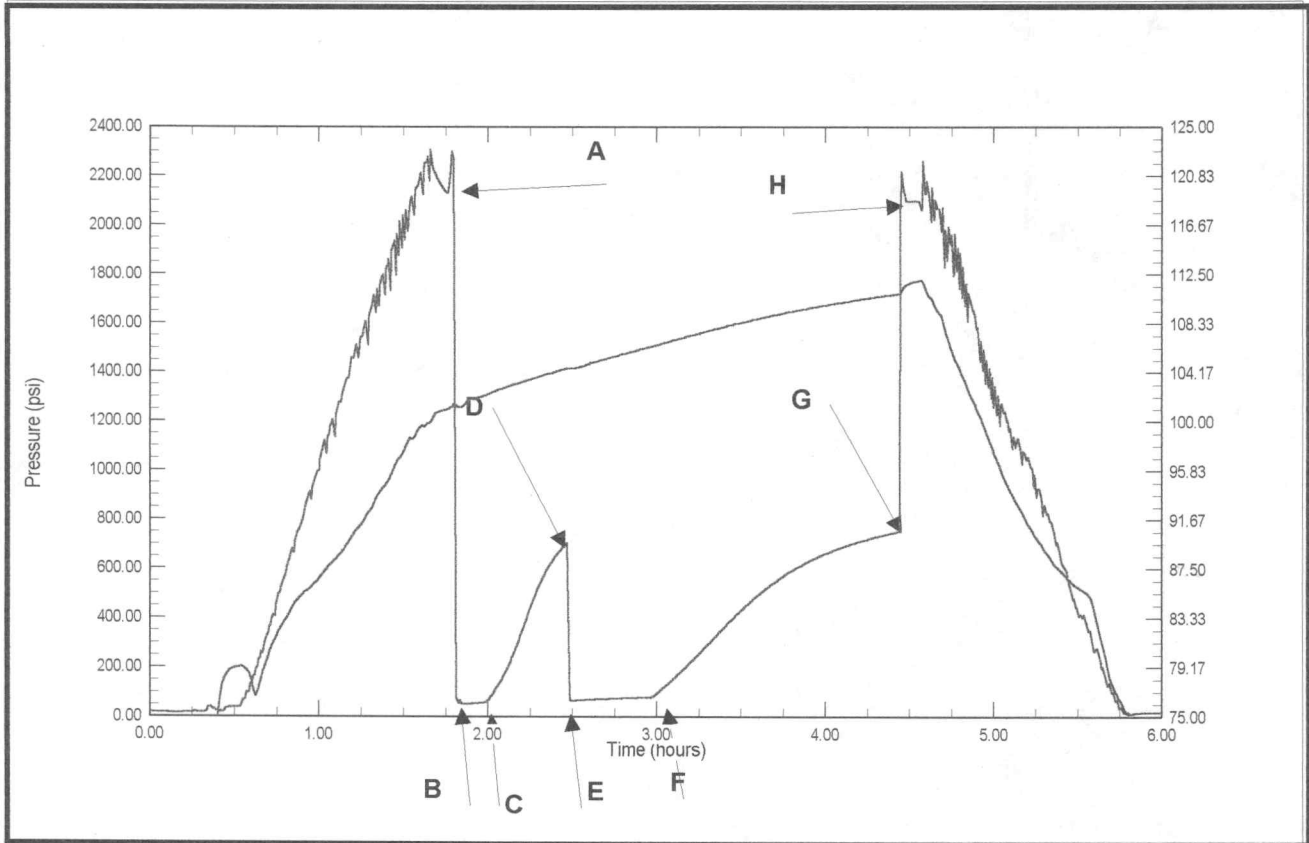
County .....

Sec Town Range ..... 150'N-N/W-S/W-S/W

Field .....

Report Number ..... 13822

Company: MIDDLE BAY PRODUCTION COMP. Lease & Well No. STROEMEL #1-13 Test # 4 Date: 12-19-1998  
 SEC. 13 TWP. 32S RGE. 10W



**Field Reading**

**Office Reading**

(A)	Initial Hydrostatic Pressure	2134	psi
(B)	Initial Flow Pressure	66	psi
(C)	Final Initial Flow Pressure	55	psi
(D)	Initial Shut-In Pressure	705	psi
(E)	Initial Final Flow Pressure	65	psi
(F)	Final Flow Pressure	77	psi
(G)	Final Shut-In Pressure	753	psi
(H)	Final Hydrostatic Pressure	2097	psi

**ELECTRONIC REECORDER DEPTH4380ft, RECORDER NUMBER78225**

**SUPERIOR TESTERS ENTERPRISES INC.**  
**DRILL STEM TEST REPORT**

**GREAT BEND, KANSAS (316)792-6902**

**Tool Setting Information**

Top Packer Depth ..... 4345  
Bottom packer Depth ..... 4350  
Number of Packers ..... 2  
Packer Size ..... 6 3/4  
  
Test Interval (from ) ..... 4350  
Test Interval (to) ..... 4387  
Anchor Length ..... 37  
Total Depth (ft) ..... 4387  
Hole Size (in) ..... 7 7/8

**Pressure Readings**

	<i>Field Reading</i>	<i>Office Reading</i>
Maximum Temp .....	112	
Initial Hydrostatic Pressure .....	2134	
Initial Flow Pressure .....	66	
Final Initial Flow Pressure .....	55	
Initial Shut-In Pressure .....	705	
Initial Final Flow Pressure .....	65	
Final Flow Pressure .....	77	
Final Shut-In Pressure .....	753	
Final Hydrostatic Pressure .....	2097	
Electronic Recorder Depth .....	4380	
Recorder Number .....	78225	
Mechanical Recorder Depth .....	4384	
Recorder Number .....	5463	

**Comments**

# SUPERIOR TESTERS ENTERPRISES INC.

## DRILL STEM TEST REPORT

GREAT BEND, KANSAS (316) 792-6902

### Flow Times

*Initial Open*

Tool Open (from) ..... 9:30  
 Tool Open (to) ..... 9:45  
 Duration (min) ..... 15

*Initial Shut-in*

Tool Closed (from) ..... 9:45  
 Tool Closed (to) ..... 10:15  
 Duration (min) ..... 30

*Final Open*

Tool Open (from) ..... 10:15  
 Tool Open (to) ..... 10:45  
 Duration (min) ..... 30

*Final Shut-in*

Tool Closed (from) ..... 10:45  
 Tool Closed (to) ..... 12:15  
 Duration (min) ..... 90

### Recovery Description

Initial Blow ..... WEAK BUILDING BLOW BUILT TO 10 INCHES INTO THE WATER

Final Blow ..... WEAK BUILDING BLOW BUILT TO 10 1/2 INCHES INTO THE WATER

Description	Feet of Recovery	% Gas	% Oil	% Mud	% Water
1) GAS IN THE PIPE	760				
2) DRILLING MUD WITH A SLIGHT SHOW OF OIL	90				
3) TOP					
4)					
5)					
6)					
7)					
8)					
9)					
10)					
11)					
12)					
13)					
14)					
15)					
<b>Total</b>	<b>850</b>				