

15-063-21781

20-13s-31w



## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION INC**

PO 783188 WICHITA KS  
67278

ATTN: MIKE ENGELBRECHT

**20-13-31W GOVE**

**HESS UNIT #1**

Start Date: 2009.06.19 @ 00:45:00

End Date: 2009.06.19 @ 08:50:25

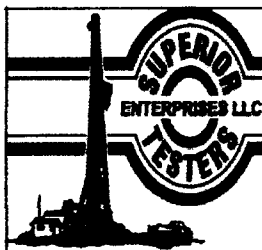
Job Ticket #: 16795                      DST #: 1

**KCC**  
**SEP 08 2009**  
**CONFIDENTIAL**

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2009.06.29 @ 11:36:02

RITCHIE EXPLORATION INC  
HESS UNIT #1  
20-13-31W GOVE  
DST # 1  
LANS  
2009.06.19



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16795

DST#: 1

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.19 @ 00:45:00

## GENERAL INFORMATION:

Formation: LANS

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:44:25

Time Test Ended: 08:50:25

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320 - 50 - SCOTT GT

Interval: 3928.00 ft (KB) To 3957.00 ft (KB) (TVD)

Total Depth: 3957.00 ft (KB) (TVD)

Hole Diameter: 6.88 inches Hole Condition: Fair

Reference Elevations: 2886.00 ft (KB)

2877.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 27799 Inside

Press@RunDepth: 279.31 psia @ 3952.00 ft (KB)

Start Date: 2009.06.19

End Date: 2009.06.19

Start Time: 00:45:25

End Time: 08:50:25

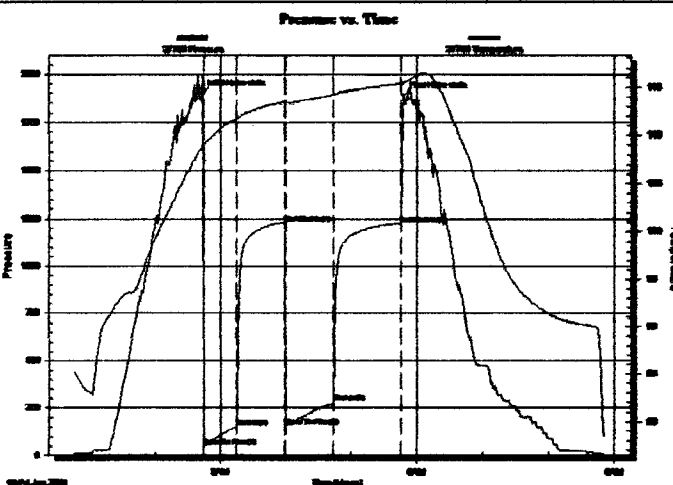
Capacity: 5000.00 psia

Last Callb.: 2009.06.19

Time On Btm: 2009.06.19 @ 02:42:55

Time Off Btm: 2009.06.19 @ 05:47:25

TEST COMMENT: 30/INITIAL OPEN :STRONG BLOW BUILT BOTTOM OF BUCKET IN 8 MINUTES  
45/INITIAL SHUT IN :NO BLOW BACK  
45/FINAL OPEN:STRONG BLOW BUILT BOTTOM OF BCKET IN 10 MINUTES  
60/FINAL SHUT IN :1 INCH BLOW BACK



## PRESSURE SUMMARY

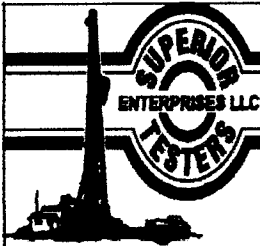
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1897.78	108.98	Initial Hydro-static
2	47.21	109.25	Open To Flow (1)
32	152.25	111.72	Shut-In(1)
76	1230.00	113.52	End Shut-In(1)
77	159.46	113.49	Open To Flow (2)
121	279.31	114.18	Shut-In(2)
183	1224.68	115.40	End Shut-In(2)
185	1888.78	115.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
450.00	GIP	6.31
510.00	GCO 15%G 85%O	7.15
60.00	O&GCM 5%G 15%O 80%M	0.84
60.00	O&GCM 7%O 8%G 15%W 70%M	0.84

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcfd)



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16795 DST#: 1

ATTN: MIKE ENGELBRECHT

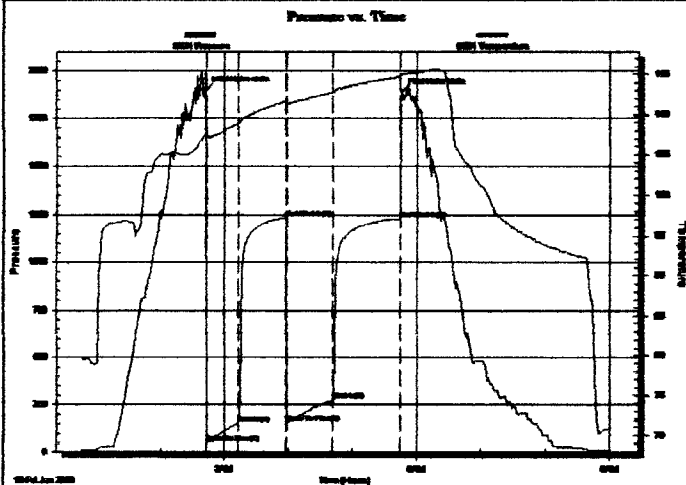
Test Start: 2009.06.19 @ 00:45:00

## GENERAL INFORMATION:

Formation: **LANS**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 02:44:25  
 Time Test Ended: 08:50:25  
 Interval: **3928.00 ft (KB) To 3957.00 ft (KB) (TVD)**  
 Total Depth: 3957.00 ft (KB) (TVD)  
 Hole Diameter: 6.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: JARED SCHECK  
 Unit No: 3320 - 50 - SCOTT CIT  
 Reference Elevations: 2886.00 ft (KB)  
 2877.00 ft (CF)  
 KB to GR/CF: 9.00 ft

Serial #: **8524** Outside  
 Press@RunDepth: 1226.71 psia @ 3952.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2009.06.19 End Date: 2009.06.19 Last Calib.: 2009.06.19  
 Start Time: 00:46:00 End Time: 09:03:00 Time On Btm: 2009.06.19 @ 02:42:00  
 Time Off Btm: 2009.06.19 @ 05:46:30

TEST COMMENT: 30/INITIAL OPEN :STRONG BLOW BUILT BOTTOM OF BUCKET IN 8 MINUTES  
 45/INITIAL SHUT IN :NO BLOW BACK  
 45/FINAL OPEN:STRONG BLOW BUILT BOTTOM OF BCKET IN 10 MINUTES  
 60/FINAL SHUT IN :1 INCH BLOW BACK



## PRESSURE SUMMARY

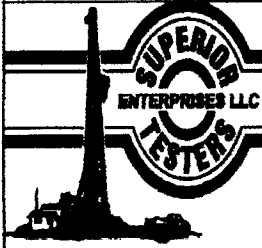
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1887.63	107.52	Initial Hydro-static
2	48.63	107.18	Open To Flow (1)
32	154.78	108.89	Shut-In(1)
76	1231.82	111.67	End Shut-In(1)
77	159.87	111.39	Open To Flow (2)
120	278.95	112.75	Shut-In(2)
183	1226.71	114.69	End Shut-In(2)
185	1890.28	114.92	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
450.00	GIP	6.31
510.00	GCO 15%G 85%O	7.15
60.00	O&GCM 5%G 15%O 80%M	0.84
60.00	O&GCM 7%O 8%G 15%W 70%M	0.84

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mc/d)



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16795

DST#: 1

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.19 @ 00:45:00

### Tool Information

Drill Pipe:	Length: 3929.00 ft	Diameter: 3.80 inches	Volume: 55.11 bbl	Tool Weight: 10000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 55.11 bbl</u>	Tool Chased 0.50 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3928.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	29.00 ft			
Tool Length:	50.00 ft			
Number of Packers:	2	Diameter: 675.00 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3908.00	
Shut-in Tool	5.00			3913.00	
Hydraulic Tool	5.00			3918.00	
Packer	5.00			3923.00	21.00 Bottom Of Top Packer
Packer	5.00			3928.00	
Perforations	24.00			3952.00	
Recorder	0.00	27799	Inside	3952.00	
Recorder	0.00	8524	Outside	3952.00	
Bullnose	5.00			3957.00	29.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>50.00</b>				



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16795

DST#: 1

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.19 @ 00:45:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 45.00 sec/qt  
Water Loss: 9.16 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 6100.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psia

Oil API: 40 deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
450.00	GIP	6.312
510.00	GCO 15%G 85%O	7.154
60.00	O&GCM 5%G 15%O 80%M	0.842
60.00	O&GCM 7%O 8%G 15%W 70%M	0.842

Total Length: 1080.00 ft      Total Volume: 15.150 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: CHLORIDES 30 ,000 RESISTIVITY .2 @ 60 DEGREES

Serial #: 27799

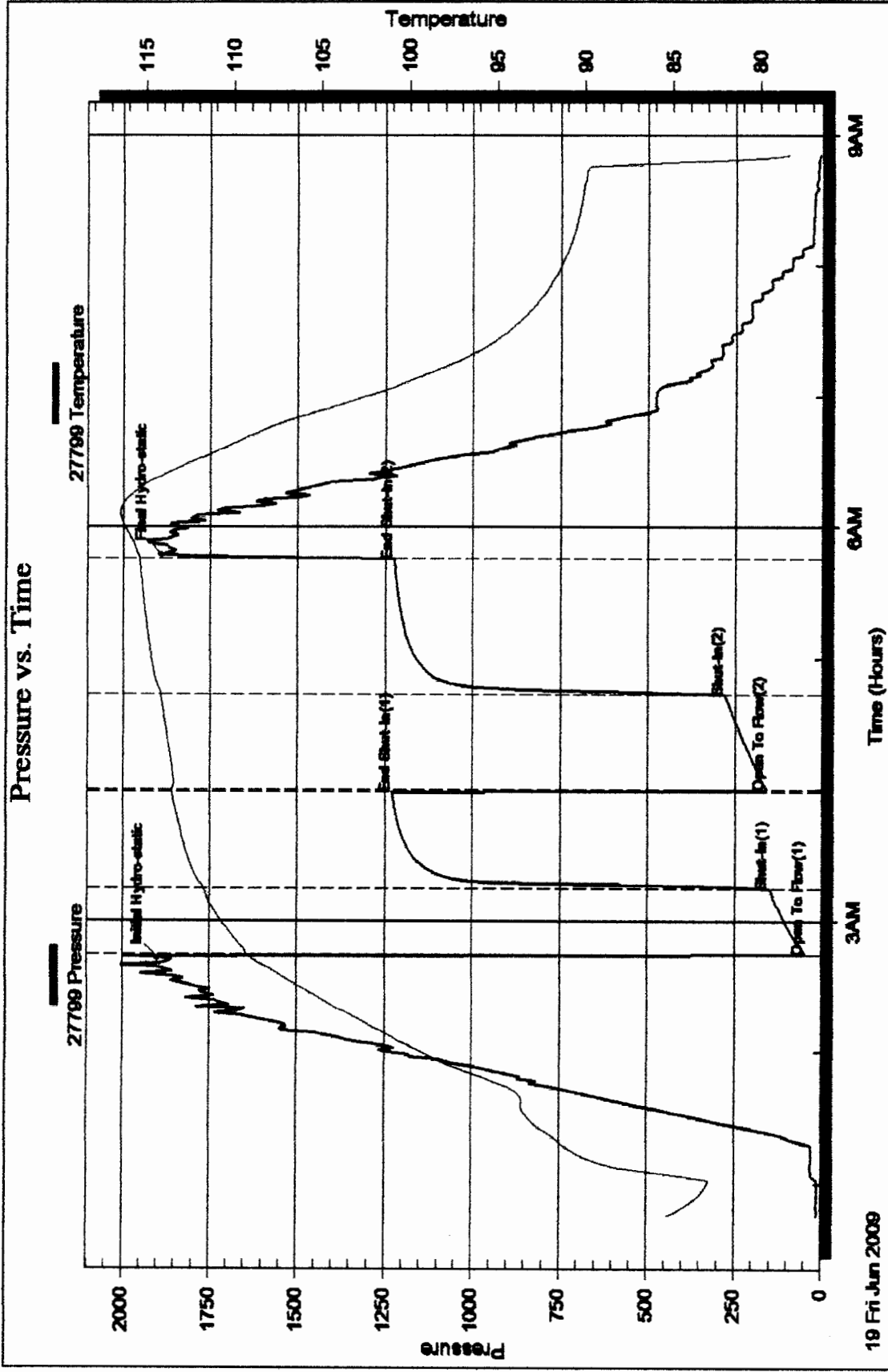
Inside

RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 1

### Pressure vs. Time



Printed: 2009.06.29 @ 11:36:02

Ref. No: 16795

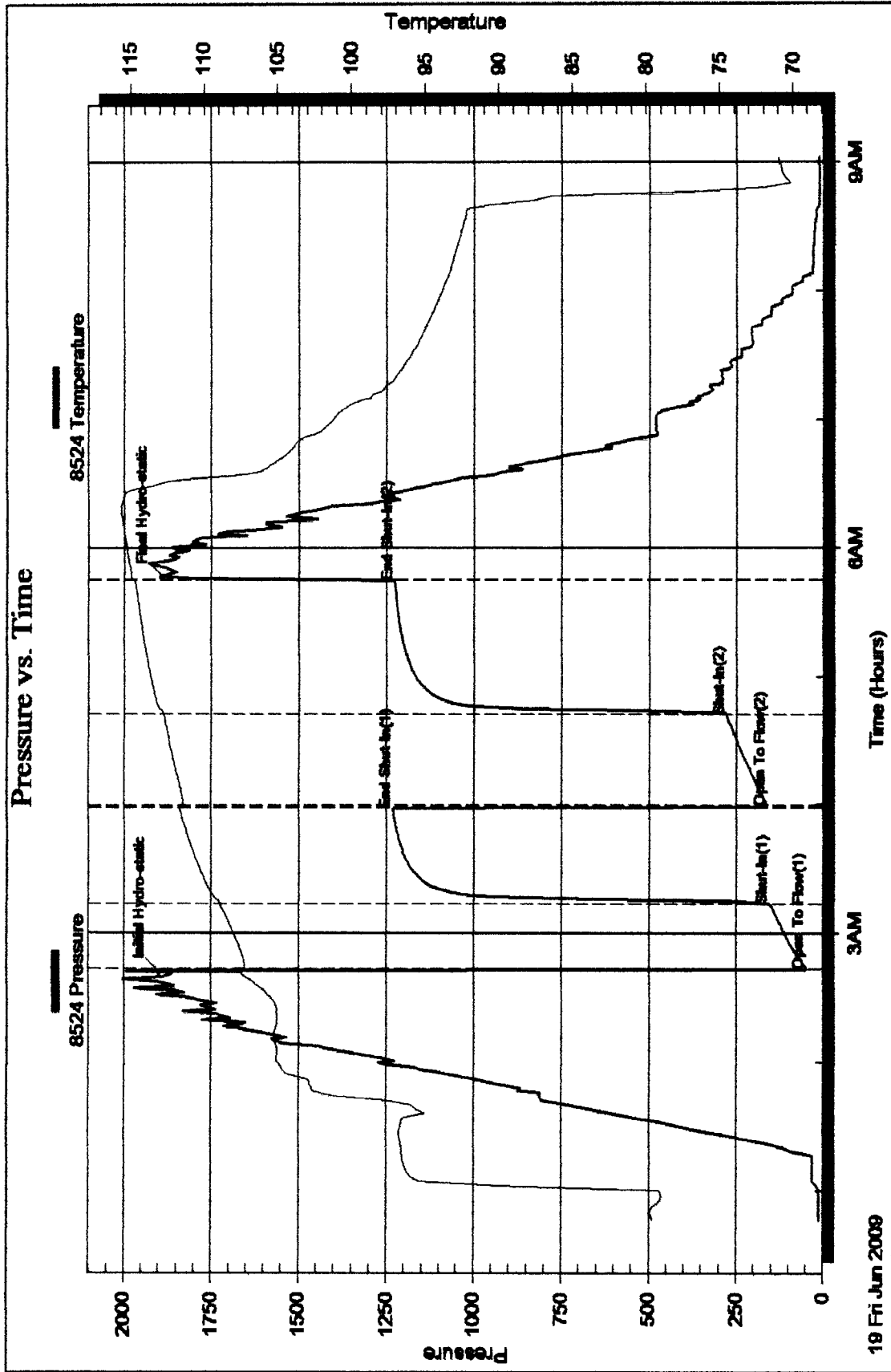
Superior Testers Enterprises LLC

Serial #: 8524

Outside RITCHEXPLORATION INC

20-13-31W GOVE

DST Test Number: 1



19 Fri Jun 2009



## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION INC**

PO 783188 WICHITA KS  
67278

ATTN: MIKE ENGELBRECHT

**20-13-31W GOVE**

**HESS UNIT #1**

Start Date: 2009.06.19 @ 18:15:00

End Date: 2009.06.19 @ 23:44:54

Job Ticket #: 16796                      DST #: 2

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2009.06.29 @ 11:36:30

RITCHIE EXPLORATION INC  
HESS UNIT #1  
20-13-31W GOVE  
DST # 2  
LANS  
2009.06.19



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16796 DST#: 2

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.19 @ 18:15:00

## GENERAL INFORMATION:

Formation: LANS

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:05:25

Time Test Ended: 23:44:54

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-50 -SCOTT CITY

Interval: 3970.00 ft (KB) To 3981.00 ft (KB) (TVD)

Reference Elevations: 2886.00 ft (KB)

Total Depth: 3981.00 ft (KB) (TVD)

2877.00 ft (CF)

Hole Diameter: 6.88 inches Hole Condition: Fair

KB to GRV/CF: 9.00 ft

Serial #: 27799

Inside

Press@RunDepth: 27.15 psia @ 3976.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2009.06.19

End Date:

2009.06.19

Last Calib.:

2009.06.19

Start Time: 18:15:25

End Time:

23:44:55

Time On Btm:

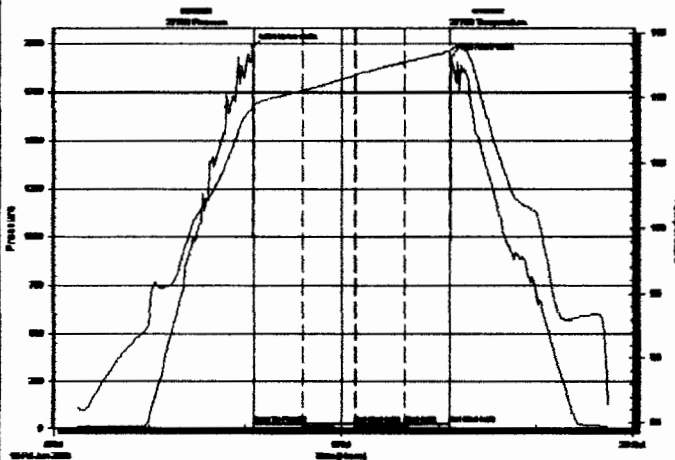
2009.06.19 @ 20:04:24

Time Off Btm:

2009.06.19 @ 22:07:25

TEST COMMENT: 30/INITIAL OPEN:VERY WEAK SURFACE BLOW DID NOT BUILD  
30/INITIAL SHUT IN : NO BLOW BACK  
30/FINAL OPEN:WEAK SURGE FLUSHED TOLL 5 MINUTES INTO OPEN BLOW DID NOT BUILD  
30/FINAL SHUT IN :NO BLOW BACK

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1979.85	109.31	Initial Hydro-static
2	26.23	109.48	Open To Flow (1)
32	27.37	110.58	Shut-in(1)
64	27.64	111.72	End Shut-in(1)
65	26.18	111.74	Open To Flow (2)
95	27.15	112.77	Shut-in(2)
123	28.10	113.54	End Shut-in(2)
124	1926.66	113.70	Final Hydro-static

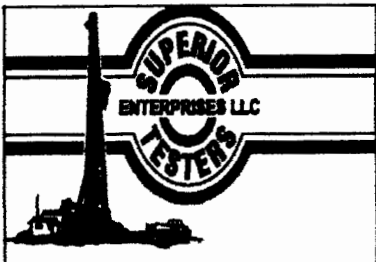
## Recovery

Length (ft)	Description	Volume (bbl)
1.00	MUD	0.01

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcfd)





# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16796

DST#: 2

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.19 @ 18:15:00

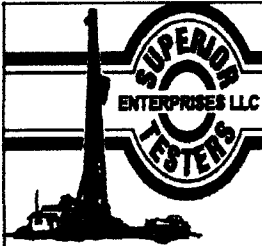
## Tool Information

Drill Pipe:	Length: 3960.00 ft	Diameter: 3.80 inches	Volume: 55.55 bbl	Tool Weight: 10000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 55.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3970.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	11.00 ft			
Tool Length:	32.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3950.00	
Shut-in Tool	5.00			3955.00	
Hydraulic Tool	5.00			3960.00	
Packer	5.00			3965.00	21.00 Bottom Of Top Packer
Packer	5.00			3970.00	
Perforations	6.00			3976.00	
Recorder	0.00	27799	Inside	3976.00	
Recorder	0.00	8524	Outside	3976.00	
Bullnose	5.00			3981.00	11.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>32.00</b>				



# DRILL STEM TEST REPORT

**FLUID SUMMARY**

RITCHE EXPLORATION INC

**HESS UNIT #1**

PO 783188 WICHITA KS  
67278

**20-13-31W GOVE**

Job Ticket: 16796

DST#: 2

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.19 @ 18:15:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 11.95 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 9600.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	MUD	0.014

Total Length: 1.00 ft      Total Volume: 0.014 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

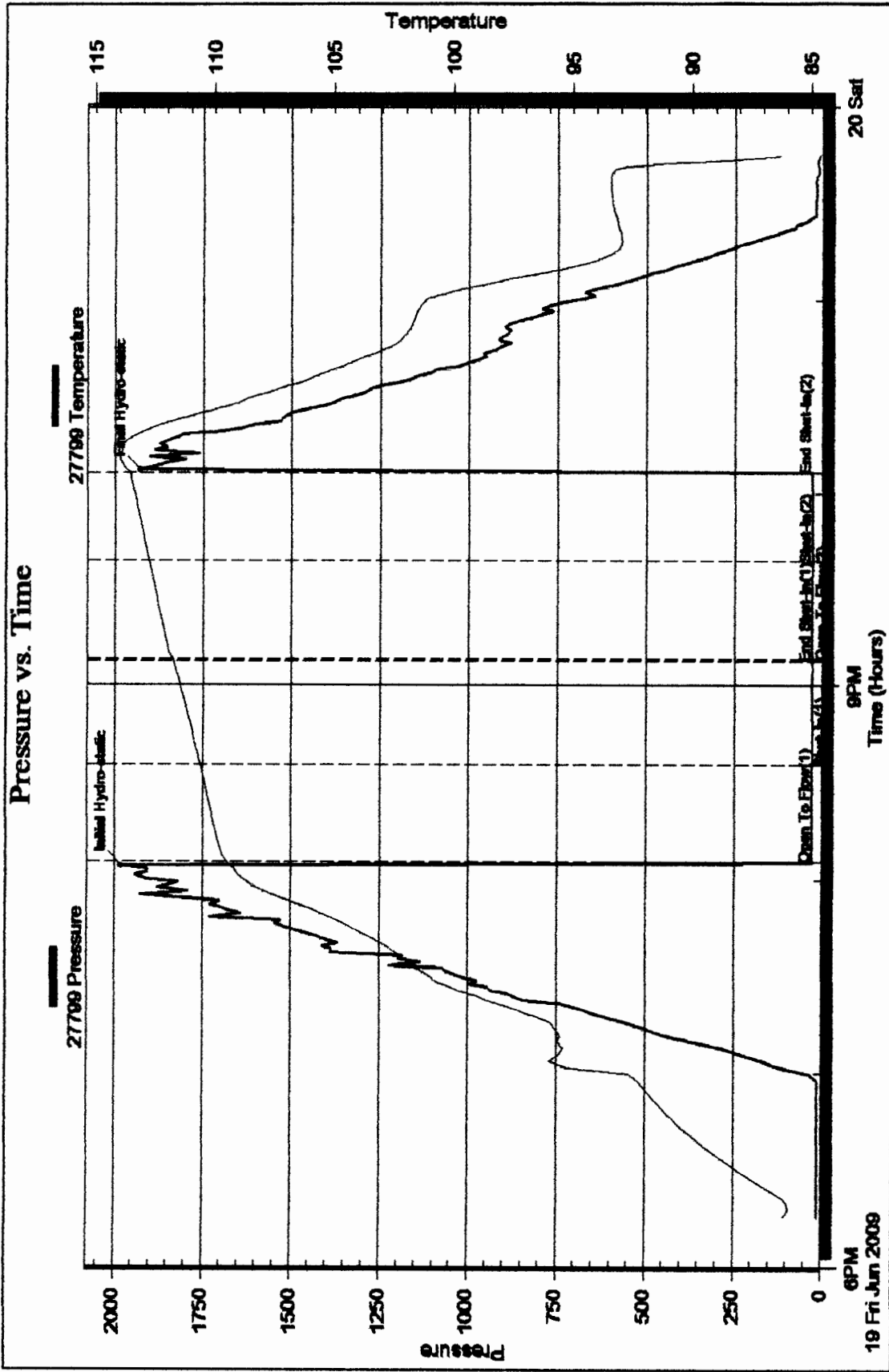
Serial #: 27799

Inside RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 2

### Pressure vs. Time



Printed: 2009.06.29 @ 11:36:30

Ref. No: 16796

Superior Testers Enterprises LLC

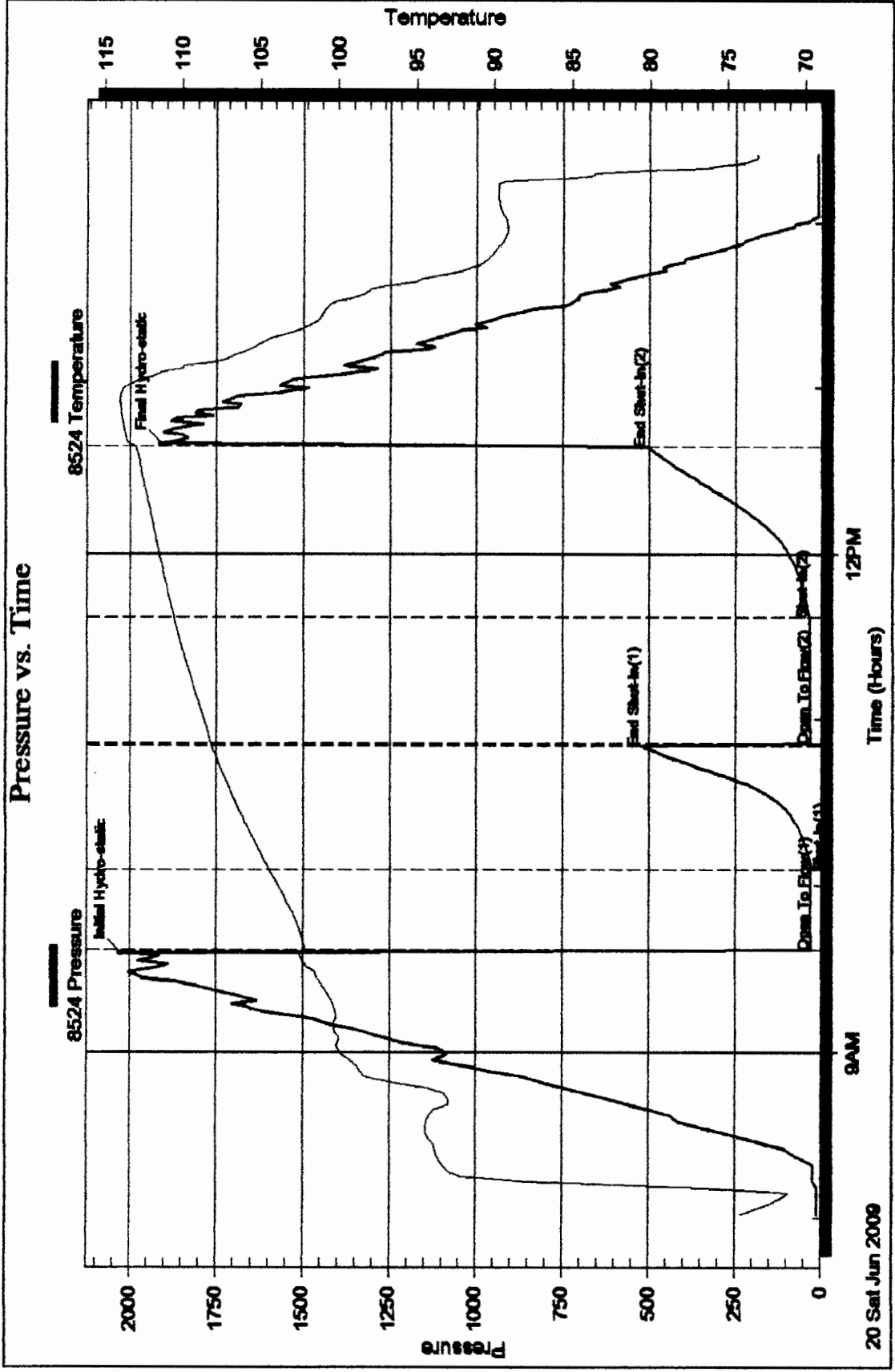
Serial #: 8524

Outside RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 2

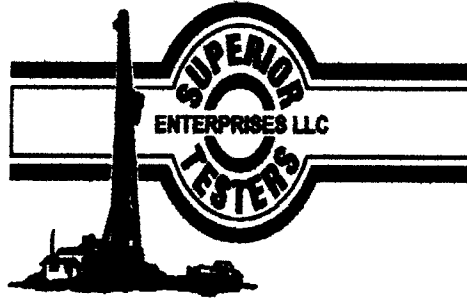
### Pressure vs. Time



Printed: 2009.06.29 @ 11:36:32

Ref. No: 16796

Superior Testers Enterprises LLC



## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION INC**

PO 783188 WICHITA KS  
67278

ATTN: MIKE ENGELBRECHT

**20-13-31W GOVE**

**HESS UNIT #1**

Start Date: 2009.06.20 @ 08:00:00

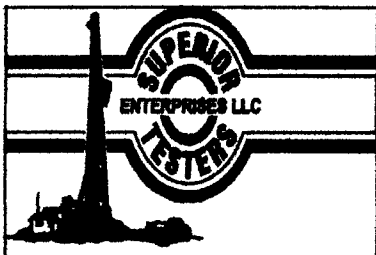
End Date: 2009.06.20 @ 14:23:54

Job Ticket #: 18797                      DST #: 3

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2009.08.29 @ 11:37:12

RITCHIE EXPLORATION INC  
HESS UNIT #1  
20-13-31W GOVE  
DST # 3  
LANSING  
2009.06.20



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16797

DST#: 3

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.20 @ 06:00:00

## GENERAL INFORMATION:

Formation: **LANSING**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:37:25

Time Test Ended: 14:23:54

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320- 50 - SCOTT CT

Interval: 3995.00 ft (KB) To 4000.00 ft (KB) (TVD)

Total Depth: 4000.00 ft (KB) (TVD)

Hole Diameter: 6.88 inches Hole Condition: Fair

Reference Elevations: 2886.00 ft (KB)

2877.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 27799

Inside

Press@RunDepth: 34.81 psia @ 3995.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2009.06.20

End Date: 2009.06.20

Last Calib.: 2009.06.20

Start Time: 08:00:25

End Time: 14:23:55

Time On Btm: 2009.06.20 @ 09:35:55

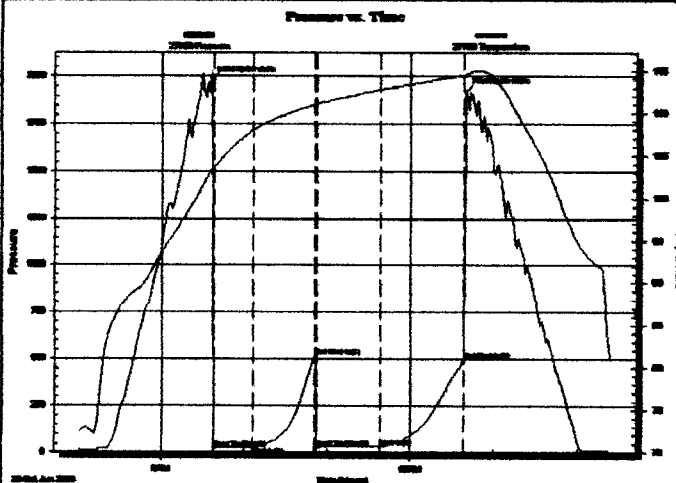
Time Off Btm: 2009.06.20 @ 12:39:55

TEST COMMENT: 30/INITIAL OPEN:WEAK BUT BUILDING BLOW BUILT 2 1/2 INCHES INTO BUCKET IN 30 MINUTES

45/INITIAL SHUT IN :NO BLOW BACK

45/FINAL OPEN :WEAK BUT BUILDING BLOW BUILT 2 INCHES INTO BUCKET IN 45 MINUTES

60/FINAL SHUT IN :NO BLOW BACK



## PRESSURE SUMMARY

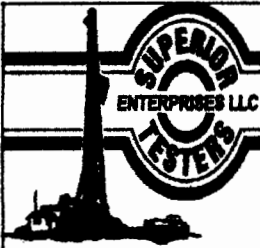
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1981.16	103.33	Initial Hydro-static
2	25.81	103.63	Open To Flow (1)
30	31.37	107.94	Shut-In(1)
75	515.46	111.07	End Shut-In(1)
77	29.44	111.12	Open To Flow (2)
122	34.81	112.72	Shut-In(2)
183	495.03	114.41	End Shut-In(2)
184	1919.54	114.60	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	GAS IN PIPE	0.63
10.00	CLEAN OIL	0.14
5.00	O&M 30%O 70%M	0.07

## Gas Rates

	Choke (Inches)	Pressure (psia)	Gas Rate (Mc/d)



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16797

DST#: 3

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.20 @ 06:00:00

## GENERAL INFORMATION:

Formation: **LANSING**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:37:25

Time Test Ended: 14:23:54

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320- 50 - SCOTT CIT

Interval: 3986.00 ft (KB) To 4000.00 ft (KB) (TVD)

Total Depth: 4000.00 ft (KB) (TVD)

Hole Diameter: 6.88 inches Hole Condition: Fair

Reference Elevations: 2886.00 ft (KB)

2877.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 8524

Outside

Press@RunDepth: 504.37 psia @ 3985.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2009.06.20

End Date:

2009.06.20

Last Calib.: 2009.06.20

Start Time: 08:01:00

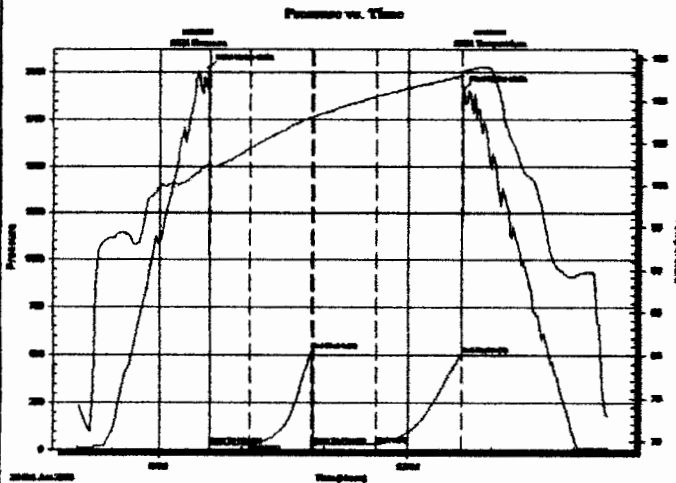
End Time:

14:25:00

Time On Btm: 2009.06.20 @ 09:35:30

Time Off Btm: 2009.06.20 @ 12:39:30

TEST COMMENT: 30/INITIAL OPEN:WEAK BUT BUILDING BLOW BUILT 2 1/2 INCHES INTO BUCKET IN 30 MINUTES  
45/INITIAL SHUT IN:NO BLOW BACK  
45/FINAL OPEN :WEAK BUT BUILDING BLOW BUILT 2 INCHES INTO BUCKET IN 45 MINUTES  
60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2026.29	102.48	Initial Hydro-static
1	28.58	102.17	Open To Flow (1)
30	31.94	104.38	Shut-In(1)
75	523.32	108.12	End Shut-In(1)
76	30.39	108.15	Open To Flow (2)
122	34.76	110.53	Shut-In(2)
183	504.37	112.96	End Shut-In(2)
184	1909.04	113.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	GAS IN PIPE	0.63
10.00	CLEAN OIL	0.14
5.00	O&M 30%O 70%M	0.07

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mc/d)



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16797

DST#: 3

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.20 @ 06:00:00

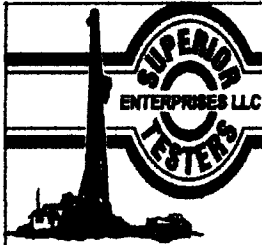
### Tool Information

Drill Pipe:	Length: 3992.00 ft	Diameter: 3.80 inches	Volume: 56.00 bbl	Tool Weight: 10000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 56000.00 lb
			<u>Total Volume: 56.00 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3986.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	14.00 ft			
Tool Length:	35.00 ft			
Number of Packers:	2	Diameter: 8.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3966.00	
Shut-in Tool	5.00			3971.00	
Hydraulic Tool	5.00			3976.00	
Packer	5.00			3981.00	21.00 Bottom Of Top Packer
Packer	5.00			3986.00	
Perforations	9.00			3995.00	
Recorder	0.00	27799	Inside	3995.00	
Recorder	0.00	8524	Outside	3995.00	
Bullnose	5.00			4000.00	14.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>35.00</b>				



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16797

DST#: 3

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.20 @ 08:00:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 85.00 sec/qt	Cushion Volume: bbl		
Water Loss: 12.36 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 11200.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	GAS IN PIPE	0.631
10.00	CLEAN OIL	0.140
5.00	O&M 30%O 70%M	0.070

Total Length: 60.00 ft      Total Volume: 0.841 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:

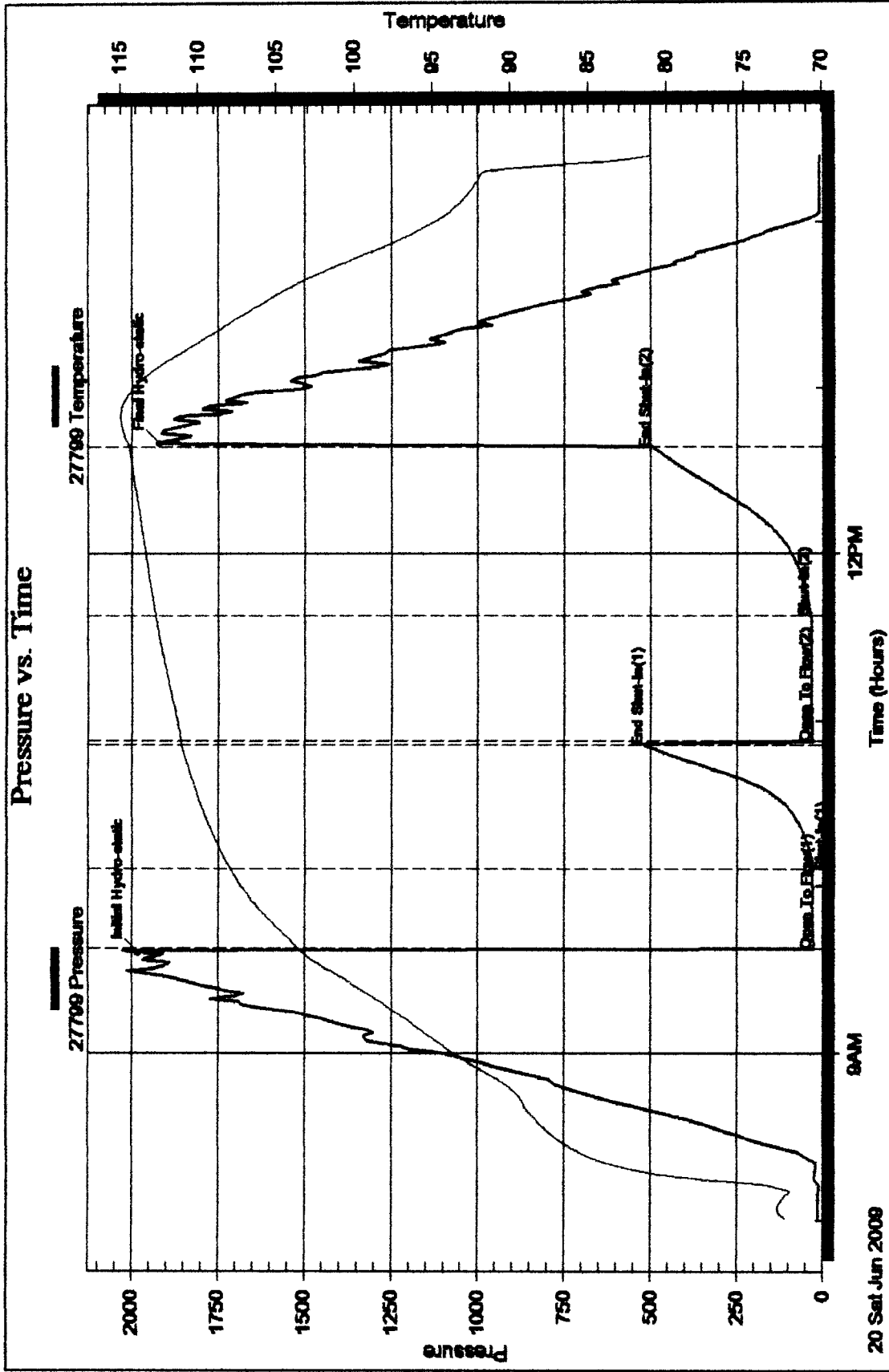
Serial #: 27799

Inside

RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 3

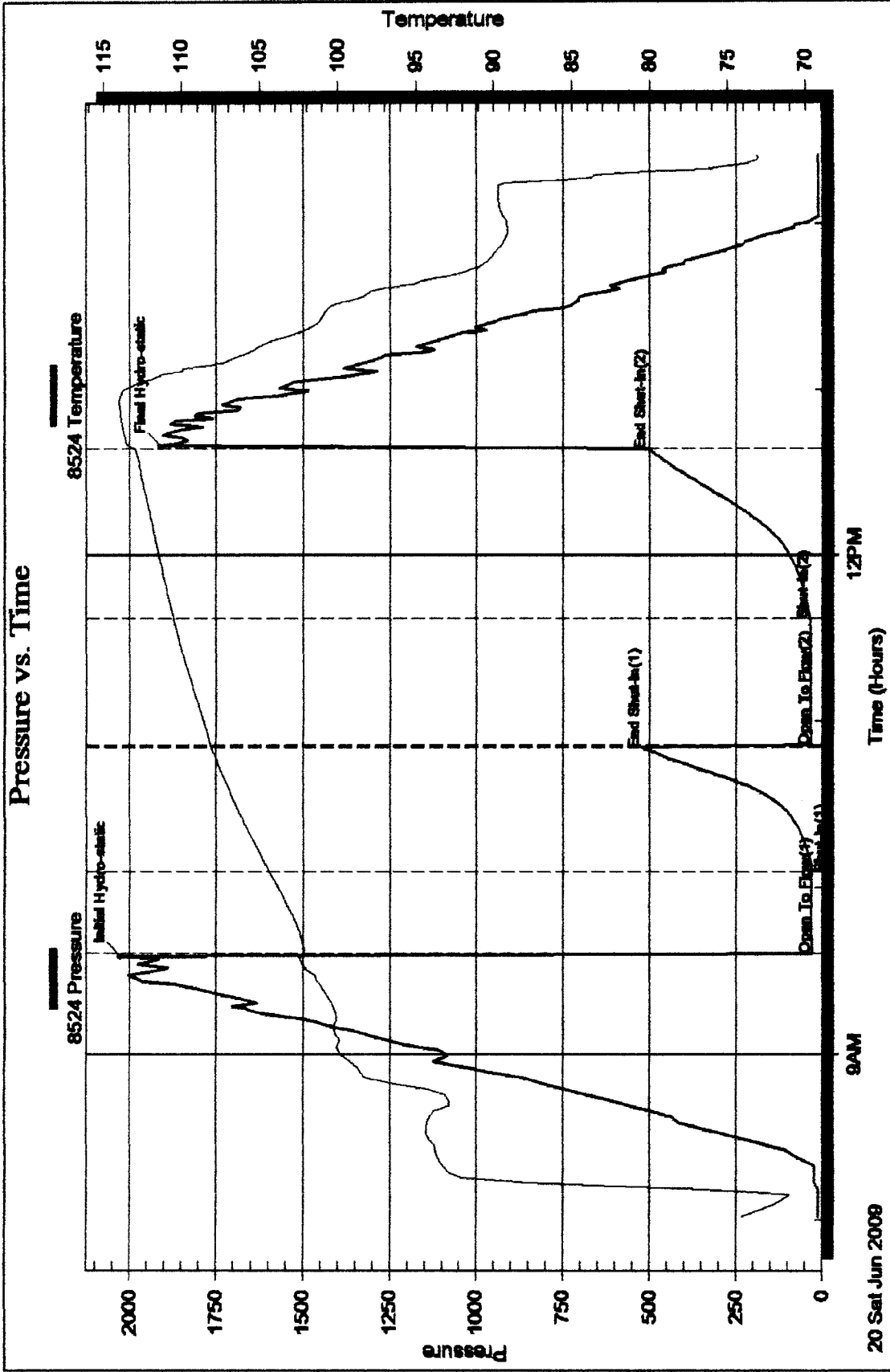


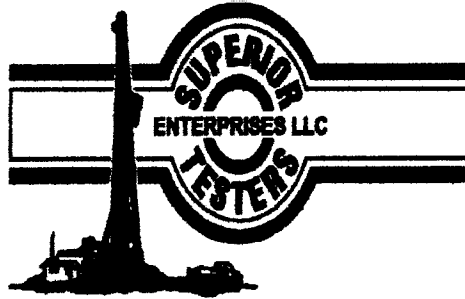
Serial #: 8524

Outside RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION INC**

PO 783188 WICHITA KS  
67278

ATTN: MIKE ENGELBRECHT

**20-13-31W GOVE**

**HESS UNIT #1**

Start Date: 2009.06.21 @ 01:30:00

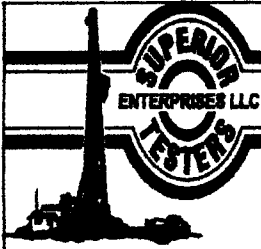
End Date: 2009.06.21 @ 09:27:24

Job Ticket #: 16798                      DST #: 4

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2009.06.29 @ 11:37:49

RITCHIE EXPLORATION INC  
HESS UNIT #1  
20-13-31W GOVE  
DST # 4  
LANGSING  
2009.06.21



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16798 DST#: 4

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.21 @ 01:30:00

## GENERAL INFORMATION:

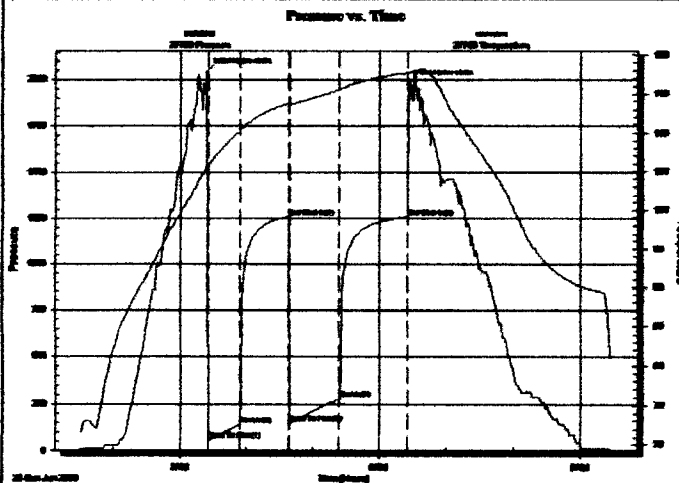
Formation: **LANSING**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:25:55  
 Time Test Ended: 09:27:24  
 Interval: **4057.00 ft (KB) To 4090.00 ft (KB) (TVD)**  
 Total Depth: **4090.00 ft (KB) (TVD)**  
 Hole Diameter: **6.88 inches** Hole Condition: Poor  
 Test Type: **Conventional Bottom Hole (Initial)**  
 Tester: **JARED SCHECK**  
 Unit No: **3320-50-SCOTT CITY**  
 Reference Elevations: **2886.00 ft (KB)**  
**2877.00 ft (CF)**  
 KB to GRVCF: **9.00 ft**

## Serial #: 27799

Inside

Press@RunDepth: **277.88 psia @ 4085.00 ft (KB)** Capacity: **5000.00 psia**  
 Start Date: **2009.06.21** End Date: **2009.06.21** Last Calib.: **2009.06.21**  
 Start Time: **01:30:25** End Time: **09:27:25** Time On Btm: **2009.06.21 @ 03:24:24**  
 Time Off Btm: **2009.06.21 @ 06:26:55**

TEST COMMENT: 30/INITIAL OPEN :STRONG BLOW BUILT BOTTOM OF BUCKET IN 3 MINUTES  
 45/INITIAL SHUT IN :1/2 INCH BLOW BACK  
 45/FINAL OPEN :STRONG BLOW BUILT BOTTOM OF BUCKET IN 5 MINUTES  
 60/FINAL SHUT IN: BOTTOM OF BUCKET



## PRESSURE SUMMARY

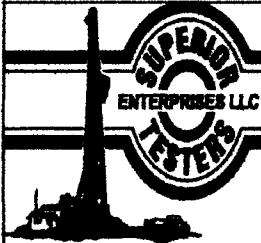
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2039.61	105.68	Initial Hydro-static
2	59.70	105.91	Open To Flow (1)
31	140.73	110.29	Shut-in(1)
75	1258.63	113.86	End Shut-in(1)
76	150.72	113.87	Open To Flow (2)
120	277.88	115.55	Shut-in(2)
182	1258.00	117.67	End Shut-in(2)
183	1977.34	117.73	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2900.00	GIP	40.68
680.00	CGO 15%G 85%O	9.54
60.00	O & GOM 15%O 25%G 60%M	0.84

## Gas Rates

Choke (inches)	Pressure (psia)	Gas Rate (MCFG)



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC  
 PO 783188 WICHITA KS  
 67278  
 ATTN: MIKE ENGELBRECHT

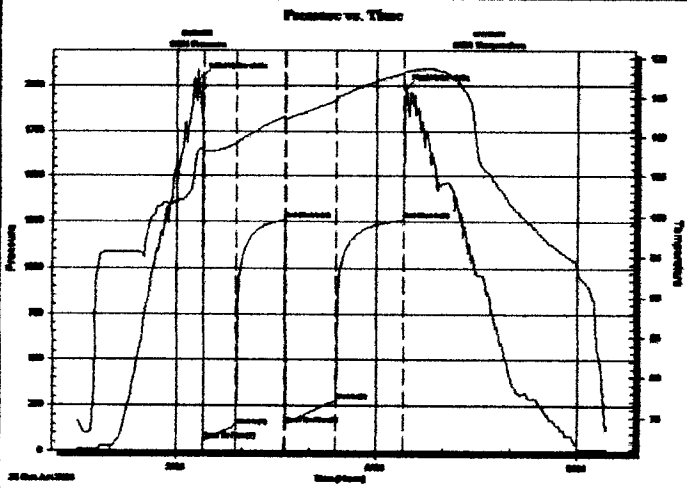
HESS UNIT #1  
 20-13-31W GOVE  
 Job Ticket: 16798 DST#: 4  
 Test Start: 2009.06.21 @ 01:30:00

## GENERAL INFORMATION:

Formation: **LANSING**  
 Deviated: **No Whipstock:** ft (KB)  
 Time Tool Opened: 03:25:55  
 Time Test Ended: 09:27:24  
 Interval: **4057.00 ft (KB) To 4090.00 ft (KB) (TVD)**  
 Total Depth: **4090.00 ft (KB) (TVD)**  
 Hole Diameter: **6.88 inches** Hole Condition: **Poor**  
 Test Type: **Conventional Bottom Hole (Initial)**  
 Tester: **JARED SCHECK**  
 Unit No: **3320-50-SCOTT CITY**  
 Reference Elevations: **2886.00 ft (KB)**  
**2877.00 ft (CF)**  
 KB to GR/CF: **9.00 ft**

Serial #: **8524** Outside  
 Press@RunDepth: **1259.32 psia @ 4085.00 ft (KB)** Capacity: **5000.00 psia**  
 Start Date: **2009.06.21** End Date: **2009.06.21** Last Calib.: **2009.06.21**  
 Start Time: **01:31:00** End Time: **09:27:00** Time On Btm: **2009.06.21 @ 03:23:30**  
 Time Off Btm: **2009.06.21 @ 06:26:00**

TEST COMMENT: 30/INITIAL OPEN :STRONG BLOW BUILT BOTTOM OF BUCKET IN 3 MINUTES  
 45/INITIAL SHUT IN :1/2 INCH BLOW BACK  
 45/FINAL OPEN :STRONG BLOW BUILT BOTTOM OF BUCKET IN 5 MINUTES  
 60/FINAL SHUT IN: BOTTOM OF BUCKET



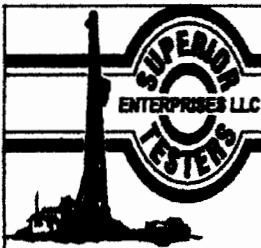
PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2047.29	108.59	Initial Hydro-static
1	61.90	108.14	Open To Flow (1)
30	141.38	109.08	Shut-In(1)
74	1260.06	112.62	End Shut-In(1)
75	149.92	112.36	Open To Flow (2)
120	279.92	114.66	Shut-In(2)
181	1259.32	117.98	End Shut-In(2)
183	1984.31	118.24	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2900.00	GP	40.68
680.00	CGO 15%G 85%O	9.54
60.00	O & GCM 15%O 25%G 60%M	0.84

## Gas Rates

Choke (inches)	Pressure (psia)	Gas Rate (Mcfd)



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

**RITCHE EXPLORATION INC**  
 PO 783188 WICHITA KS  
 67278  
 ATTN: MIKE ENGELBRECHT

**HESS UNIT #1**  
**20-13-31W GOVE**  
 Job Ticket: 16798      DST#: 4  
 Test Start: 2009.06.21 @ 01:30:00

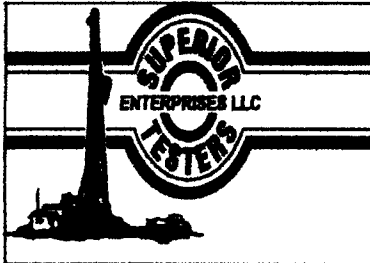
**Tool Information**

Drill Pipe:	Length: 4053.00 ft	Diameter: 3.80 inches	Volume: 56.85 bbl	Tool Weight: 10000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Full Loose: 67000.00 lb
			<b>Total Volume: 56.85 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4057.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	33.00 ft			
Tool Length:	54.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4037.00	
Shut-In Tool	5.00			4042.00	
Hydraulic Tool	5.00			4047.00	
Packer	5.00			4052.00	21.00      Bottom Of Top Packer
Packer	5.00			4057.00	
Perforations	28.00			4085.00	
Recorder	0.00	27790	Inside	4085.00	
Recorder	0.00	8524	Outside	4085.00	
Bullnose	5.00			4090.00	33.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>54.00</b>				



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16798

DST#: 4

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.21 @ 01:30:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 46 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 65.00 sec/qt	Cushion Volume: bbl	
Water Loss: 12.36 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psia	
Salinity: 11200.00 ppm		
Filter Cake: 1.00 inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2900.00	GIP	40.679
680.00	CGO 15%G 85%O	9.539
60.00	O & GOM 15%O 25%G 60%M	0.842

Total Length: 3640.00 ft      Total Volume: 51.060 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

DST Test Number: 4

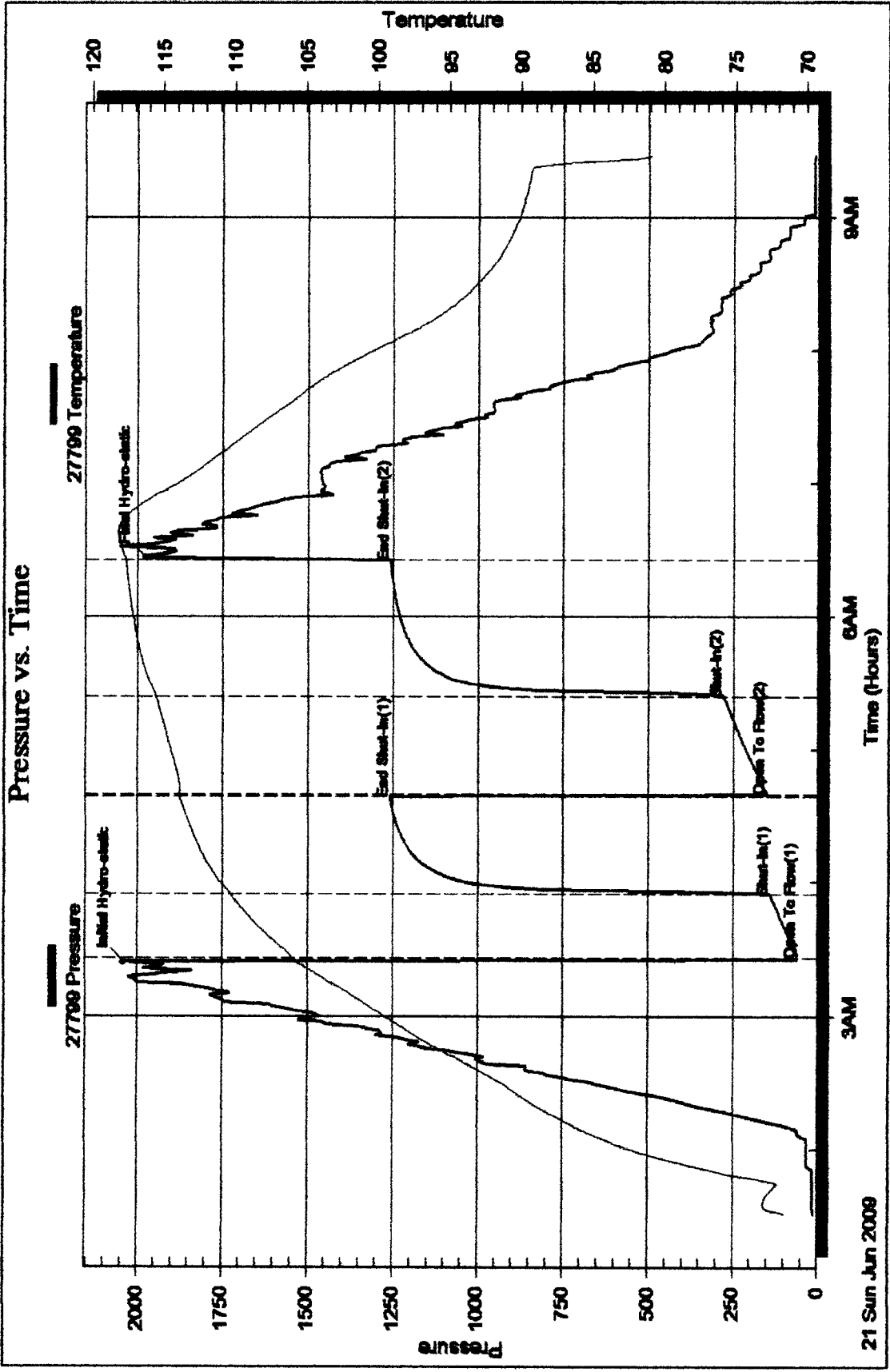
20-13-31W GOVE

RITCHE EXPLORATION INC

Inside

Serial #: 27799

### Pressure vs. Time



Printed: 2009.06.29 @ 11:37:50

Ref. No: 16788

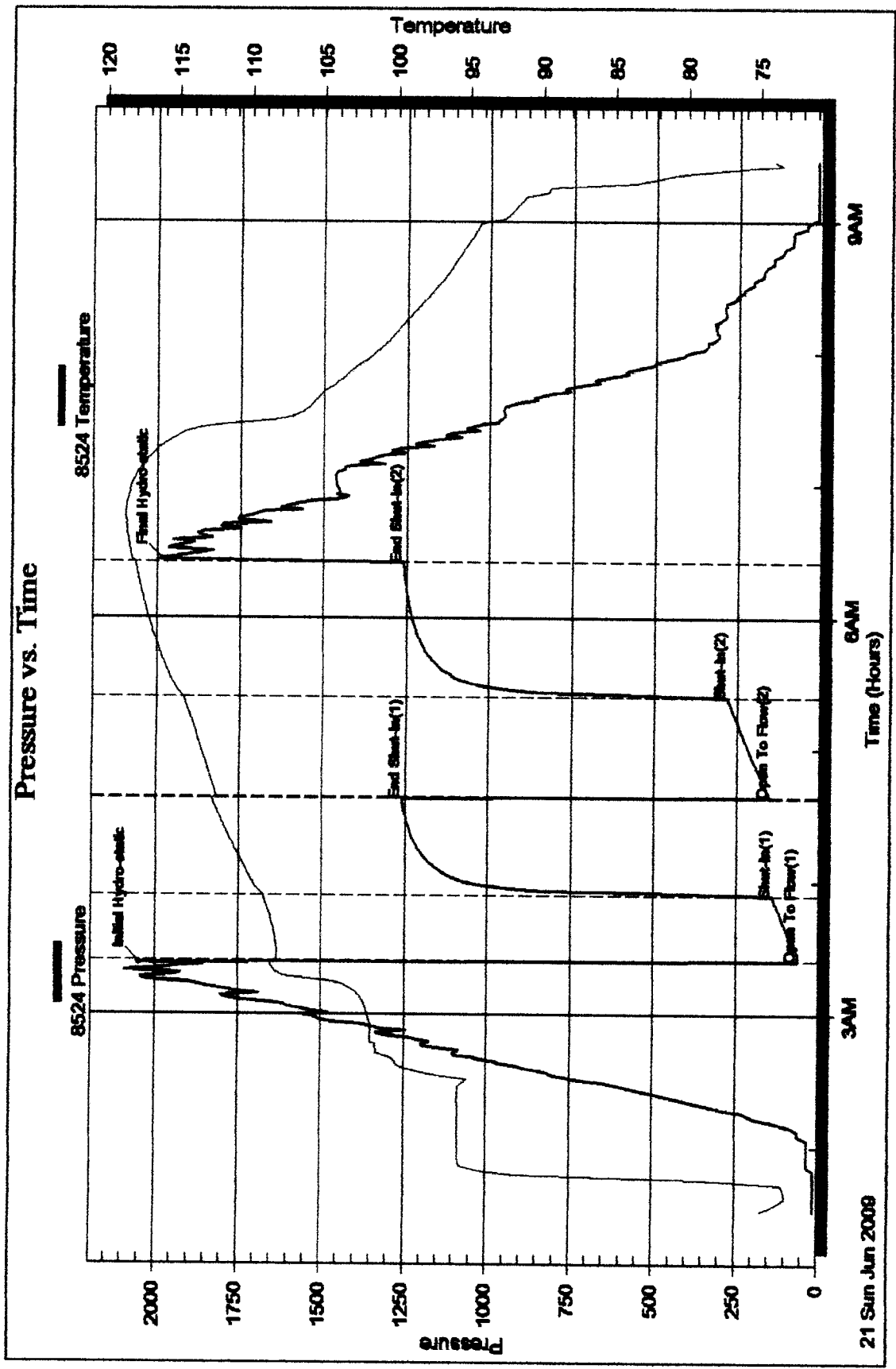
Superior Testers Enterprises LLC

Serial #: 8524

Outside RITCHE EXPLORATION INC

20-13-31W COVE

DST Test Number: 4





## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION INC**

PO 783188 WICHITA KS  
67278

ATTN: MIKE ENGELBRECHT

**20-13-31W GOVE**

**HESS UNIT #1**

Start Date: 2009.06.21 @ 17:16:00

End Date: 2009.06.22 @ 01:07:55

Job Ticket #: 18799                      DST #: 5

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2009.06.29 @ 11:38:15

RITCHIE EXPLORATION INC  
HESS UNIT #1  
20-13-31W GOVE  
DST # 5  
LANSING  
2009.06.21



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16799

DST#: 5

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.21 @ 17:16:00

## GENERAL INFORMATION:

Formation: LANSING

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:07:55

Time Test Ended: 01:07:55

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-50-SCOTT CITY

Interval: 4093.00 ft (KB) To 4123.00 ft (KB) (TVD)

Total Depth: 4123.00 ft (KB) (TVD)

Hole Diameter: 6.88 inches Hole Condition: Poor

Reference Elevations: 2886.00 ft (KB)

2877.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 27799

Inside

Press@RunDepth: 329.75 psia @ 4118.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2009.06.21

End Date:

2009.06.22

Last Calib.:

2009.06.22

Start Time: 17:16:25

End Time:

01:07:55

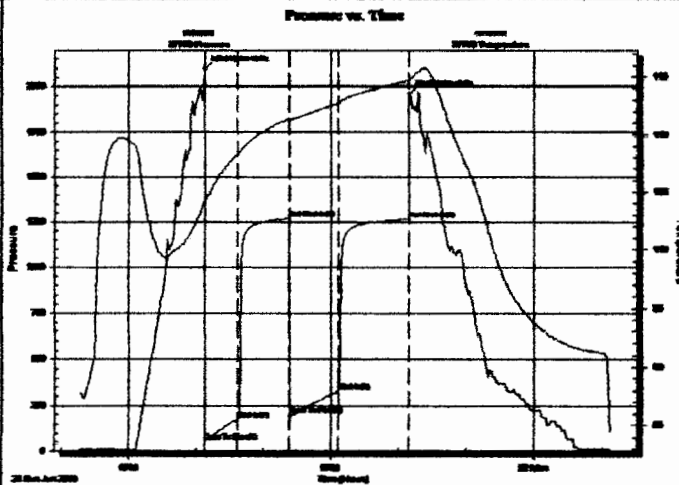
Time On Btm:

2009.06.21 @ 19:07:24

Time Off Btm:

2009.06.21 @ 22:09:55

TEST COMMENT: 30/INITIAL OPEN:STRONG BLOW BUILT BOTTOM OF BCKET IN 6 MINUTES  
45/INITIAL SHUT IN :BOTTOM OF BUCKET  
45/FINAL OPEN:STRONG BLOW BOTTOM OF BCKET IN 7 MINUTES  
60/FINAL SHT IN :BOTTOM OF BUCKET



## PRESSURE SUMMARY

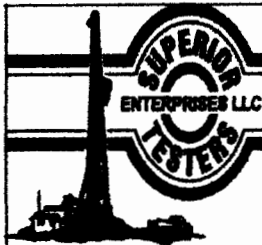
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2096.80	104.27	Initial Hydro-static
1	54.42	104.39	Open To Flow (1)
30	177.47	108.33	Shut-In(1)
76	1269.13	111.39	End Shut-In(1)
77	199.78	111.43	Open To Flow (2)
120	329.75	112.78	Shut-In(2)
182	1265.29	114.73	End Shut-In(2)
183	1960.81	114.78	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2100.00	GP	29.46
870.00	OGO 15%G 85%O	9.40
60.00	O&GCM 5%G 15%W 20%O 60%M	0.84
60.00	VSO&GCMV 2%O 3%G 30%M 65%W	0.84

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcfd)



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16799

DST#: 5

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.21 @ 17:16:00

## GENERAL INFORMATION:

Formation: LANSING

Deviated: No Whipstock ft (KB)

Time Tool Opened: 19:07:55

Time Test Ended: 01:07:55

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-50-SCOTT CITY

Interval: 4083.00 ft (KB) To 4123.00 ft (KB) (TVD)

Total Depth: 4123.00 ft (KB) (TVD)

Hole Diameter: 6.88 inches Hole Condition: Poor

Reference Elevations: 2886.00 ft (KB)

2877.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 8524

Outside

Press@RunDepth: 1266.91 psia @ 4118.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2009.06.21

End Date: 2009.06.22

Last Calib.: 2009.06.22

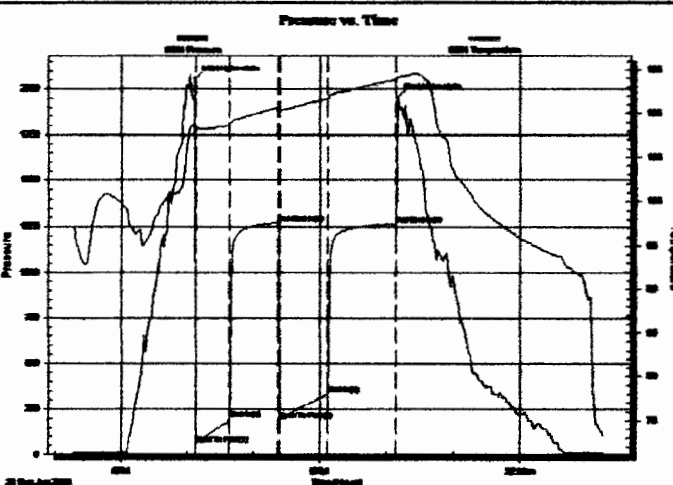
Start Time: 17:17:00

End Time: 01:15:00

Time On Btm: 2009.06.21 @ 19:07:00

Time Off Btm: 2009.06.21 @ 22:09:30

TEST COMMENT: 30/INITIAL OPEN STRONG BLOW BUILT BOTTOM OF BUCKET IN 6 MINUTES  
45/INITIAL SHUT IN :BOTTOM OF BUCKET  
45/FINAL OPEN STRONG BLOW BOTTOM OF BUCKET IN 7 MINUTES  
60/FINAL SHUT IN :BOTTOM OF BUCKET



## PRESSURE SUMMARY

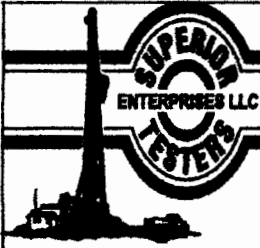
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2053.83	108.81	Initial Hydro-static
1	61.70	108.39	Open To Flow (1)
31	197.83	108.69	Shut-In(1)
75	1271.19	110.69	End Shut-In(1)
77	194.25	110.40	Open To Flow (2)
120	332.28	111.69	Shut-In(2)
181	1266.91	113.86	End Shut-In(2)
183	1952.97	114.10	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2100.00	GP	29.46
670.00	CGO 15%G 85%O	9.40
60.00	O&GCM 5%G 15%W 20%O 60%M	0.84
60.00	VSO&GCMV 2%O 3%G 30%M 65%W 0.84	

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mc/d)
--	----------------	-----------------	-----------------



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16799

DST#: 5

ATTN: MIKE ENGELBRECHT

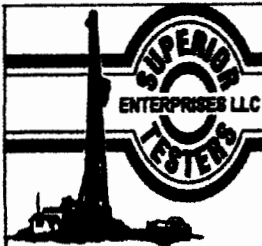
Test Start: 2009.06.21 @ 17:16:00

### Tool Information

Drill Pipe:	Length: 4085.00 ft	Diameter: 3.80 inches	Volume: 57.30 bbl	Tool Weight: 10000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 57.30 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4093.00 ft			Final 53000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4073.00	
Shut-In Tool	5.00			4078.00	
Hydraulic Tool	5.00			4083.00	
Packer	5.00			4088.00	21.00 Bottom Of Top Packer
Packer	5.00			4093.00	
Perforations	25.00			4118.00	
Recorder	0.00	27799	Inside	4118.00	
Recorder	0.00	8524	Outside	4118.00	
Bullnose	5.00			4123.00	30.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>51.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

RITCHIE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16799

DST#: 5

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.21 @ 17:16:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

47 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 12.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.10 ohm.m

Gas Cushion Pressure:

psia

Salinity: 10800.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
2100.00	GP	29.457
670.00	CGO 15%G 85%O	9.398
60.00	O&GCMW 5%G 15%W 20%O 60%M	0.842
60.00	VSO&GCMW 2%O 3%G 30%M 65%W	0.842

Total Length: 2890.00 ft

Total Volume: 40.539 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 27799

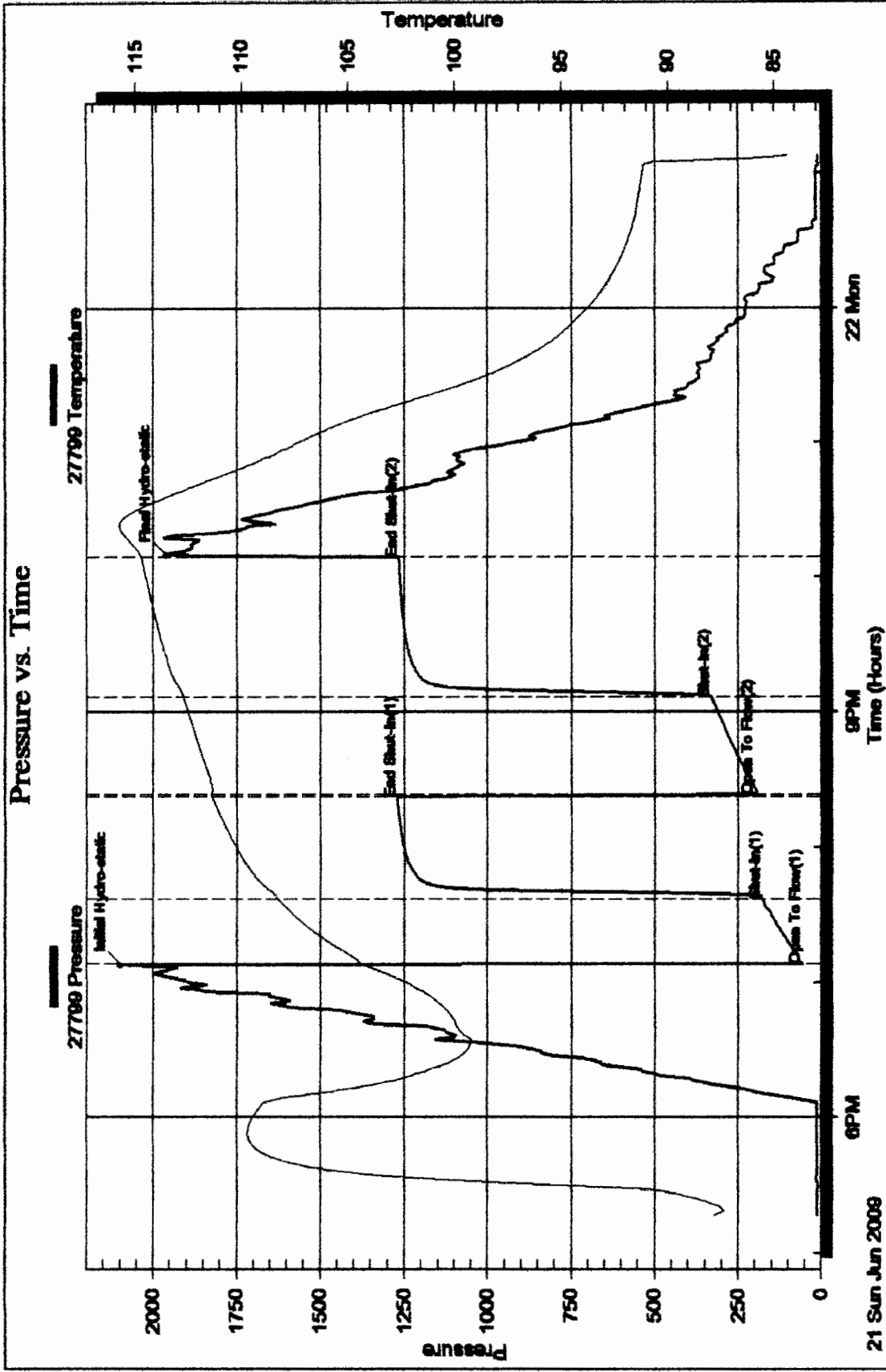
Inside

RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 5

### Pressure vs. Time



Printed: 2009.06.29 @ 11:38:15

Ref. No: 16789

Superior Testers Enterprises LLC

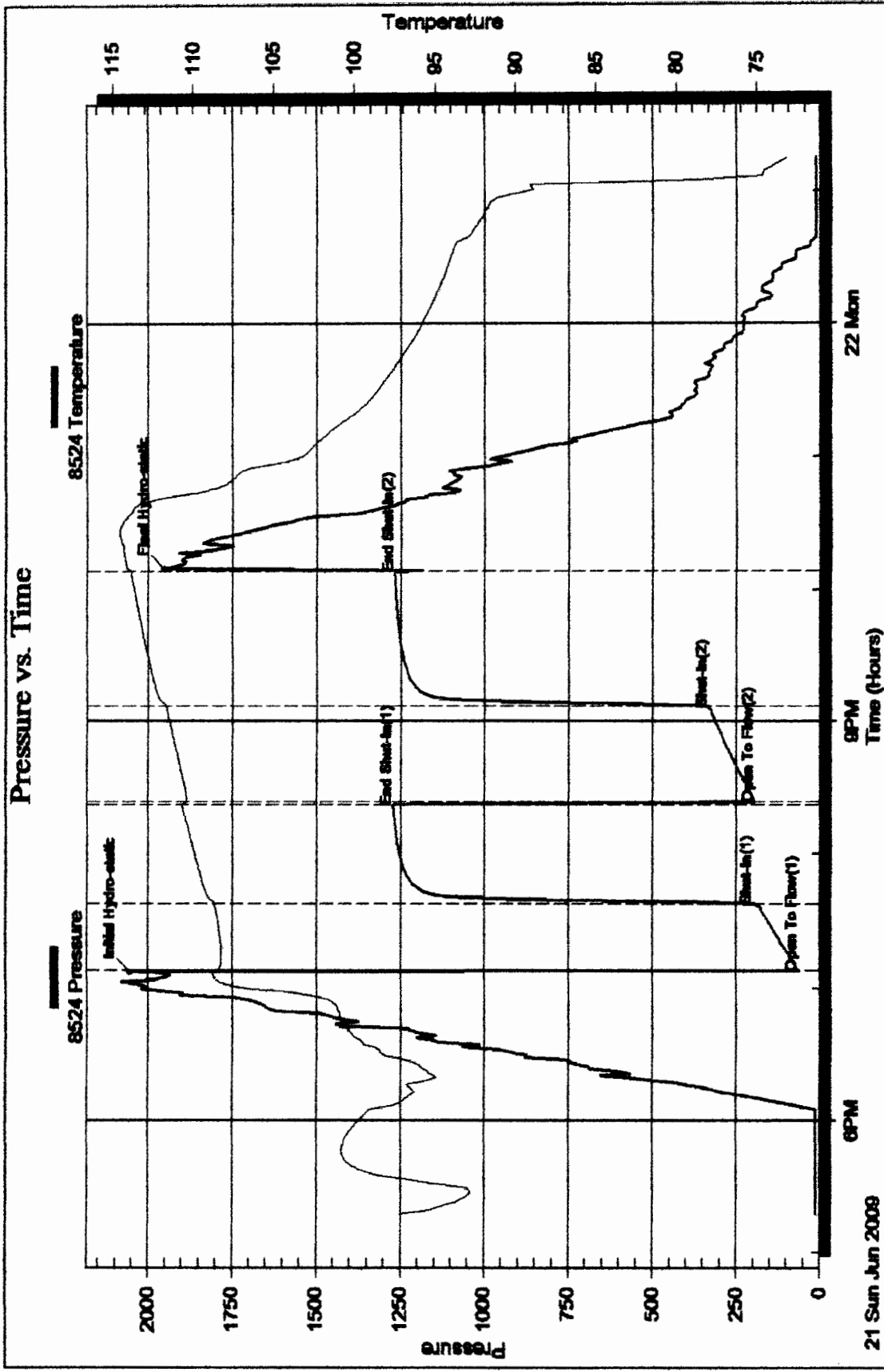
Serial #: 8524

Outside RITCHEXPLORATION INC

20-13-31W GOVE

DST Test Number: 5

### Pressure vs. Time



Printed: 2008.06.29 @ 11:38:16

Ref. No: 16789

Superior Testers Enterprises LLC



## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION INC**

PO 783188 WICHITA KS  
67278

ATTN: MIKE ENGELBRECHT

**20-13-31W GOVE**

**HESS UNIT #1**

Start Date: 2009.06.22 @ 09:00:00

End Date: 2009.06.22 @ 16:04:54

Job Ticket #: 18800                      DST #: 6

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2009.06.29 @ 11:38:30

RITCHIE EXPLORATION INC  
HESS UNIT #1  
20-13-31W GOVE  
DST # 6  
LANSING  
2009.06.22



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16800 DST#: 6

ATTN: MIKE ENGELBRECHT

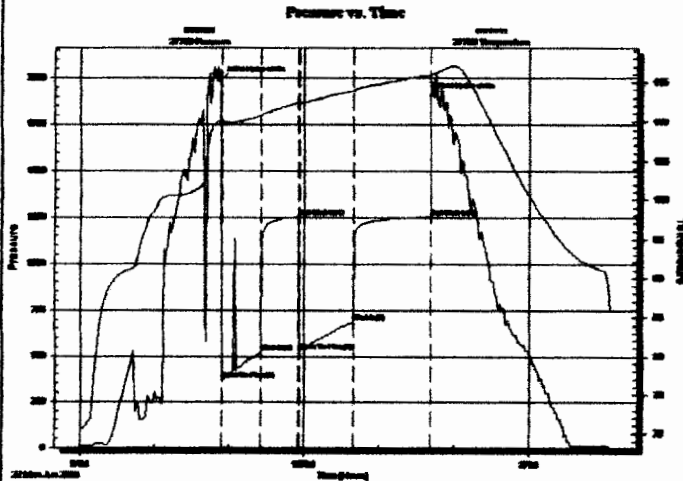
Test Start: 2009.06.22 @ 09:00:00

## GENERAL INFORMATION:

Formation: **LANSING**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:54:25  
 Time Test Ended: 16:04:54  
 Interval: **4127.00 ft (KB) To 4140.00 ft (KB) (TVD)**  
 Total Depth: **4140.00 ft (KB) (TVD)**  
 Hole Diameter: **6.88 inches** Hole Condition: **Poor**  
 Test Type: **Conventional Bottom Hole (Initial)**  
 Tester: **JARED SCHECK**  
 Unit No: **3320-50 -SCOTT CITY**  
 Reference Elevations: **2886.00 ft (KB)**  
**2877.00 ft (CF)**  
 KB to GR/CF: **9.00 ft**

**Serial #: 27799** Inside  
 Press@RunDepth: **688.30 psia @ 4135.00 ft (KB)** Capacity: **5000.00 psia**  
 Start Date: **2009.06.22** End Date: **2009.06.22** Last Calib.: **2009.06.22**  
 Start Time: **09:00:25** End Time: **16:04:55** Time On Btrr: **2009.06.22 @ 10:53:25**  
 Time Off Btrr: **2009.06.22 @ 13:41:25**

**TEST COMMENT:** 30/INITIAL OPEN :NO BLOW FLUSHED TOOL 10 MINUTES INTO OPEN NO BLOW  
 30/INITIAL SHUT IN:NO BLOW BACK  
 45/FINAL OPEN :STRONG BLOW BUILT BOTTOM OF BUCKET IN 14 MINUTES  
 60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

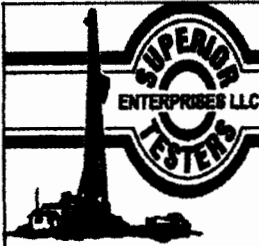
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1987.96	110.00	Initial Hydro-static
1	370.68	110.03	Open To Flow (1)
33	524.95	110.77	Shut-In(1)
62	1254.47	112.38	End Shut-In(1)
63	530.72	112.38	Open To Flow (2)
106	688.30	113.96	Shut-In(2)
168	1255.16	115.91	End Shut-In(2)
168	1905.79	115.92	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
55.00	GIP	0.77
425.00	SO&GOM 5%G 5%O 90%M	5.96
180.00	O&GOM 10%O 30%G 60%M	2.52
180.00	SO&GOMW 5% G 10%W25%G 60%M	2.52
120.00	SO&GOM&W 5%O 15%G 40%M 40%W	1.68
300.00	VSO&GOMW 2%O 35G 5%M 90%W	4.21

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcfd)



# DRILL STEM TEST REPORT

RITCHEE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

ATTN: MIKE ENGELBRECHT

Job Ticket: 16800

DST#: 6

Test Start: 2009.06.22 @ 09:00:00

## GENERAL INFORMATION:

Formation: **LANSING**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:54:25

Time Test Ended: 16:04:54

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-50 -SCOTT CITY

Interval: 4127.00 ft (KB) To 4140.00 ft (KB) (TVD)

Total Depth: 4140.00 ft (KB) (TVD)

Hole Diameter: 6.88 inches Hole Condition: Poor

Reference Elevations: 2886.00 ft (KB)

2877.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 8524

Outside

Press@RunDepth: 1256.89 psia @ 4135.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2009.06.22

End Date:

2009.06.22

Last Calib.:

2009.06.22

Start Time: 09:01:00

End Time:

16:05:30

Time On Btmr:

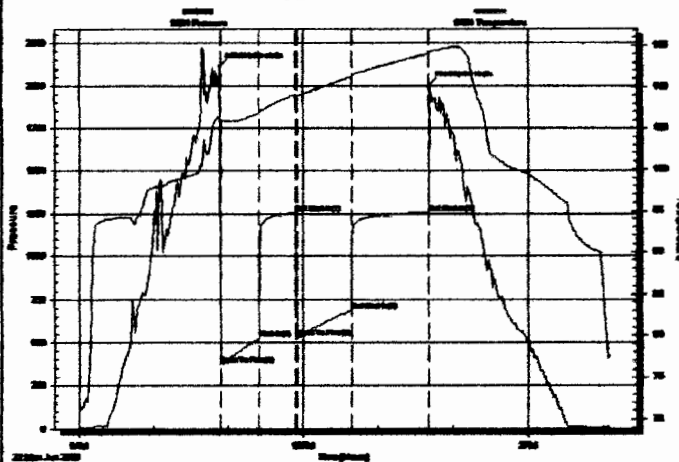
2009.06.22 @ 10:53:30

Time Off Btmr:

2009.06.22 @ 13:41:30

TEST COMMENT: 30/INITIAL OPEN :NO BLOW FLUSHED TOOL 10 MINUTES INTO OPEN NO BLOW  
30/INITIAL SHUT IN :NO BLOW BACK  
45/FINAL OPEN :STRONG BLOW BUILT BOTTOM OF BUCKET IN 14 MINUTES  
60/FINAL SHUT IN :NO BLOW BACK

Pressure vs. Time



## PRESSURE SUMMARY

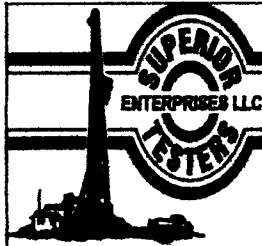
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2113.20	106.39	Initial Hydro-static
1	373.18	105.94	Open To Flow (1)
32	525.36	106.82	Shut-in(1)
61	1255.99	109.10	End Shut-in(1)
62	531.02	106.91	Open To Flow (2)
106	690.49	111.22	End Shut-in(2)
167	1256.89	113.98	End Shut-in(3)
168	2004.10	114.24	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
55.00	GIP	0.77
425.00	SO&GCM 5%G 5%O 90%M	5.96
180.00	O&GCM 10%O 30%G 60%M	2.52
180.00	SO&GCWM 5% G 10%W25%G 60%M	2.52
120.00	SO&GCM&W 5%O 15%G 40%M 40%W	1.88
300.00	VSO&GCWM 2%O 35G 5%M 90%W	4.21

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mc/d)



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION INC  
 PO 783188 WICHITA KS  
 67278  
 ATTN: MIKE ENGELBRECHT

HESS UNIT #1  
 20-13-31W GOVE  
 Job Ticket: 16800 DST#: 6  
 Test Start: 2009.06.22 @ 09:00:00

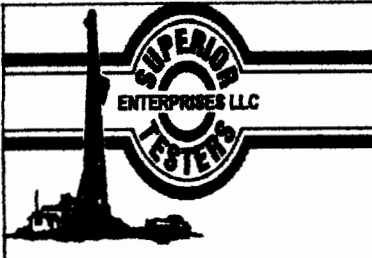
**Tool Information**

Drill Pipe:	Length: 4116.00 ft	Diameter: 3.80 inches	Volume: 57.74 bbl	Tool Weight: 10000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 57.74 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	4127.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	13.00 ft			
Tool Length:	34.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: HIT BRIDGE SLIDE TOOL 30 FEET 32 STANDS LEFT OUT 1920 FEET OFF BOTTOM

**Tool Description**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4107.00	
Shut-in Tool	5.00			4112.00	
Hydraulic Tool	5.00			4117.00	
Packer	5.00			4122.00	21.00 Bottom Of Top Packer
Packer	5.00			4127.00	
Perforations	8.00			4135.00	
Recorder	0.00	27799	Inside	4135.00	
Recorder	0.00	8524	Outside	4135.00	
Bullnose	5.00			4140.00	13.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>34.00</b>				



# DRILL STEM TEST REPORT

**FLUID SUMMARY**

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16800

DST#: 6

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.22 @ 09:00:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 58.00 sec/qt  
Water Loss: 15.96 in<sup>3</sup>  
Resistivity: 0.10 ohm.m  
Salinity: 13100.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psia

Oil API: deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
55.00	GP	0.772
425.00	SO&GCM 5%G 5%O 90%M	5.962
180.00	O&GCM 10%O 30%G 60%M	2.525
180.00	SO&GCMW 5% G 10%W 25%G 60%M	2.525
120.00	SO&GCM&W 5%O 15%G 40%M 40%W	1.683
300.00	VSO&GCMW 2%O 35G 5%M 90%W	4.208
120.00	SW 100%W	1.683

Total Length: 1380.00 ft      Total Volume: 19.358 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: CHLORIDES 45,000

Serial #: 27789

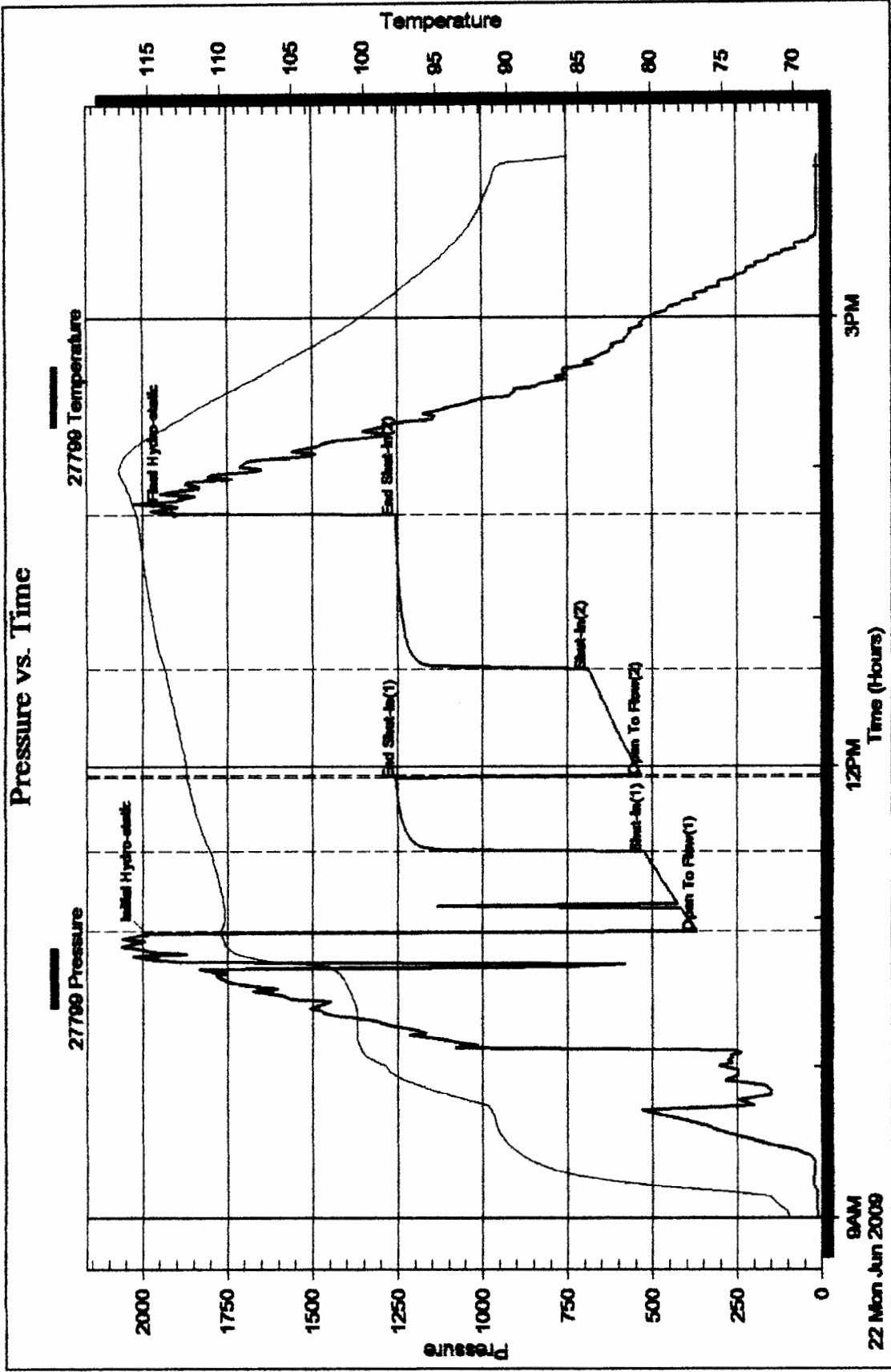
Inside

RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 6

### Pressure vs. Time



Printed: 2008.06.29 @ 11:38:30

Ref. No: 16800

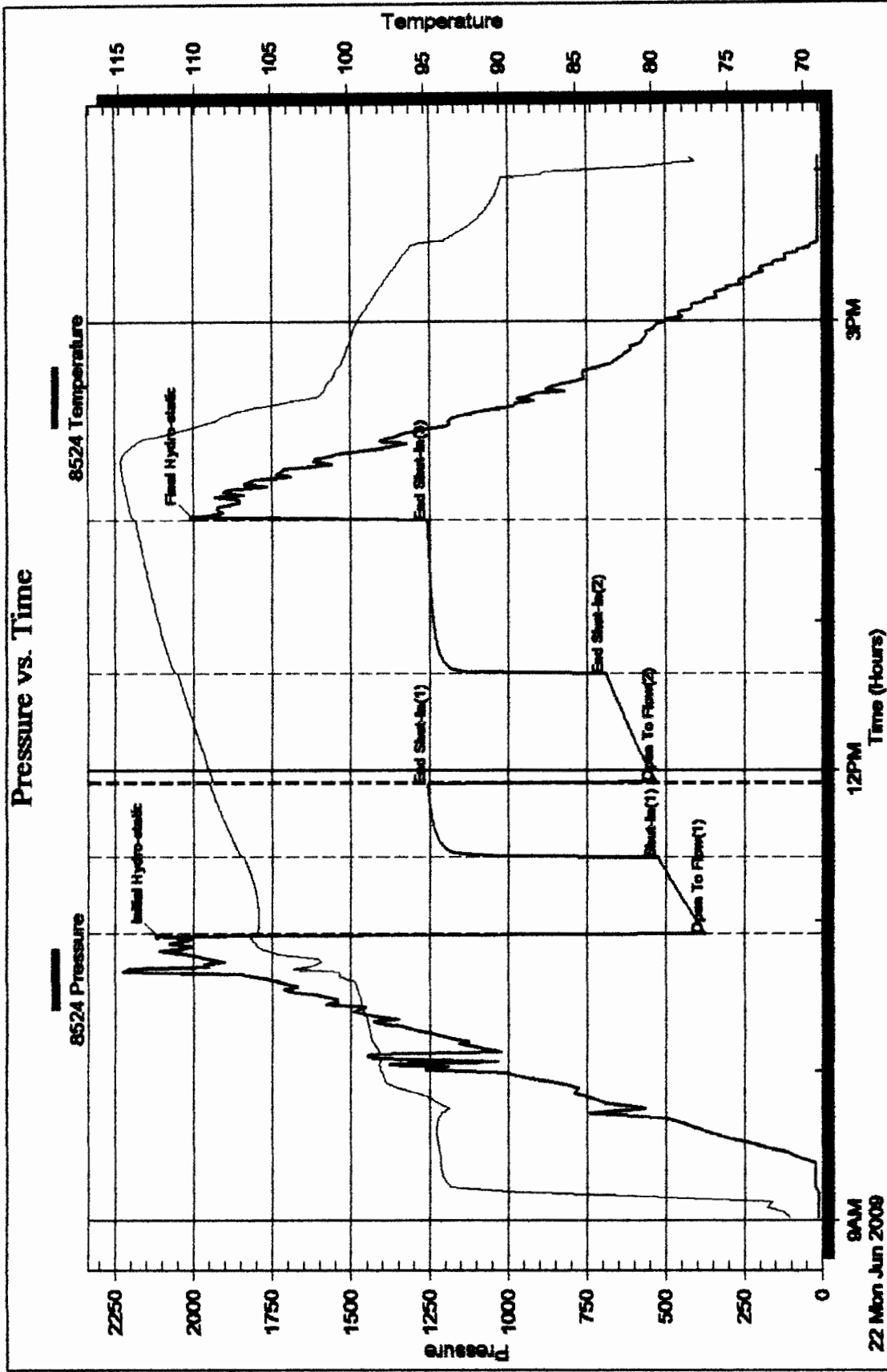
Superior Testers Enterprises LLC

Serial #: 8524

Outside RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 6





## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION INC**

PO 783188 WICHITA KS  
67278

ATTN: MIKE ENGELBRECHT

**20-13-31W GOVE**

**HESS UNIT #1**

Start Date: 2009.06.23 @ 20:15:00

End Date: 2009.06.24 @ 02:40:24

Job Ticket #: 16851                      DST #: 7

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-8902

Printed: 2009.06.29 @ 11:38:55

RITCHIE EXPLORATION INC    HESS UNIT #1    20-13-31W GOVE    DST # 7    ALT    2009.06.23



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16851

DST#: 7

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.23 @ 20:15:00

## GENERAL INFORMATION:

Formation: ALT

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:14:25

Time Test Ended: 02:40:24

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-50-SCOTT CITY

Interval: 4262.00 ft (KB) To 4335.00 ft (KB) (TVD)

Total Depth: 4335.00 ft (KB) (TVD)

Hole Diameter: 6.88 inches Hole Condition: Poor

Reference Elevations: 2886.00 ft (KB)

2877.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 27799

Inside

Press@RunDepth: 434.48 psia @ 4330.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2009.06.23

End Date:

2009.06.24

Last Calib.:

2009.06.24

Start Time: 20:15:25

End Time:

02:40:25

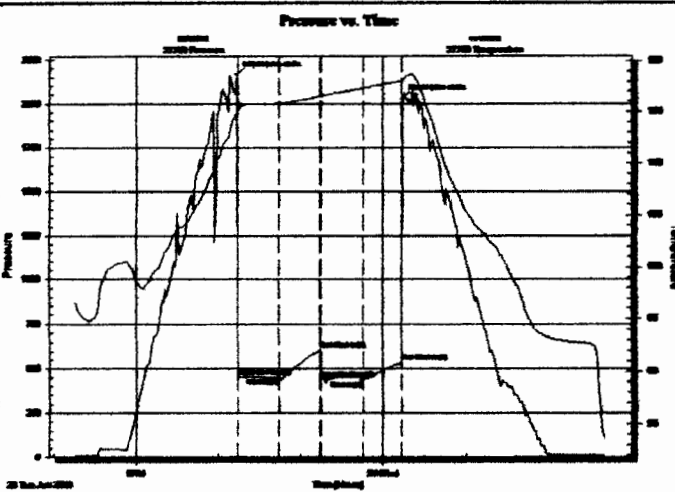
Time On Btm:

2009.06.23 @ 22:13:24

Time Off Btm:

2009.06.24 @ 00:13:55

TEST COMMENT: 30/INITIAL OPEN: GOOD SURGE DIED OFF:  
30/INITIAL SHUT IN: NO BLOW BACK  
30/FINAL OPEN: GOOD SURGE DIED OFF FLUSHED TOOL GOOD SURGE DIED OFF  
30/FINAL SHUT IN: NO BLOW BACK



## PRESSURE SUMMARY

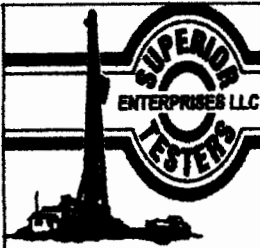
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2166.15	114.84	Initial Hydro-static
2	453.37	115.15	Open To Flow (1)
31	450.13	115.83	Shut-In(1)
62	610.30	116.51	End Shut-In(1)
62	444.09	116.52	Open To Flow (2)
93	434.48	117.32	Shut-In(2)
121	538.46	117.99	End Shut-In(2)
121	2029.08	118.02	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
840.00	MUD	11.78

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16851

DST#: 7

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.23 @ 20:15:00

## GENERAL INFORMATION:

Formation: ALT

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:14:25

Time Test Ended: 02:40:24

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-50-SCOTT CITY

Interval: 4262.00 ft (KB) To 4335.00 ft (KB) (TVD)

Total Depth: 4335.00 ft (KB) (TVD)

Hole Diameter: 6.88 inches Hole Condition: Poor

Reference Elevations: 2686.00 ft (KB)

2877.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 8524

Outside

Press@RunDepth: 539.58 psia @ 4330.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2009.06.23

End Date: 2009.06.24

Last Calib.: 2009.06.24

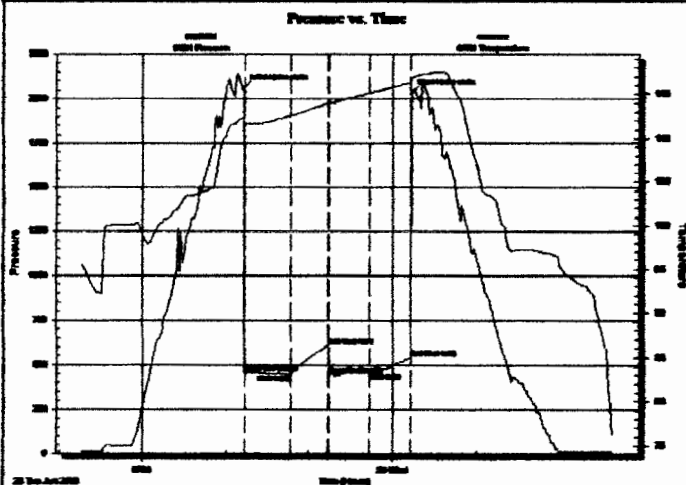
Start Time: 20:16:00

End Time: 02:38:00

Time On Btm: 2009.06.23 @ 22:13:00

Time Off Btm: 2009.06.24 @ 00:13:30

TEST COMMENT: 30/INITIAL OPEN :GOOD SURGE DIED OFF:  
30/INITIAL SHUT IN :NO BLOW BACK  
30/FINAL OPEN:GOOD SURGE DIED OFF FLUSHED TOOL GOOD SURGE DIED OFF  
30/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2061.37	112.23	Initial Hydro-static
1	453.80	111.73	Open To Flow (1)
34	446.38	112.56	Shut-In (1)
61	611.28	113.98	End Shut-In (1)
62	445.32	113.94	Open To Flow (2)
91	454.74	115.17	Shut-In (2)
120	539.58	116.27	End Shut-In (2)
121	2031.93	116.78	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
840.00	MUD	11.78

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mc/d)



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16851

DST#: 7

ATTN: MIKE ENGELBRECHT

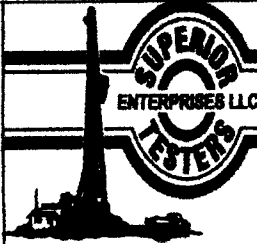
Test Start: 2009.06.23 @ 20:15:00

## Tool Information

Drill Pipe:	Length: 4268.00 ft	Diameter: 3.80 inches	Volume: 59.87 bbl	Tool Weight:	10000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	62000.00 lb
			<u>Total Volume: 59.87 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	4262.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	73.00 ft				
Tool Length:	94.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: HIT BRIDGES 17,18,19 STANDS INTO HOLE 29,33,34,36 STANDS ON THE WAY IN THE HOLE

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4242.00	
Shut-in Tool	5.00			4247.00	
Hydraulic Tool	5.00			4252.00	
Packer	5.00			4257.00	21.00 Bottom Of Top Packer
Packer	5.00			4262.00	
Change Over Sub	0.75			4262.75	
Drill Pipe	31.50			4294.25	
Change Over Sub	0.75			4295.00	
Perforations	35.00			4330.00	
Recorder	0.00	27799	Inside	4330.00	
Recorder	0.00	8524	Outside	4330.00	
Bullnose	5.00			4335.00	73.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>94.00</b>				



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16851

DST#: 7

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.23 @ 20:15:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 51.00 sec/qt  
Water Loss: 13.97 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 12800.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psia

Oil API: deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
840.00	MUD	11.783

Total Length: 840.00 ft      Total Volume: 11.783 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

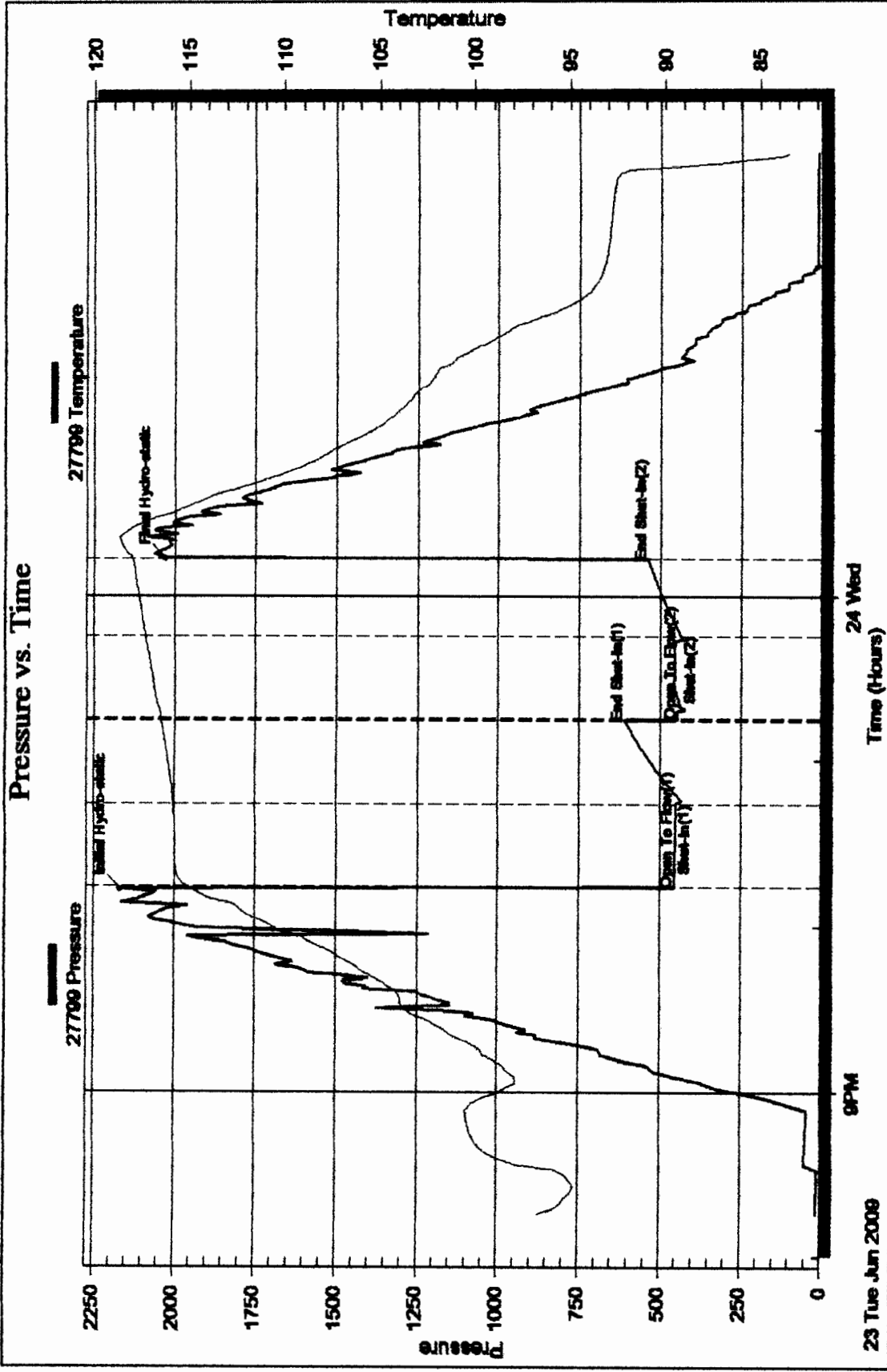
Serial #: 27799

Inside

RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 7



Printed: 2009.06.29 @ 11:38:56

Ref. No: 16851

Superior Testers Enterprises LLC

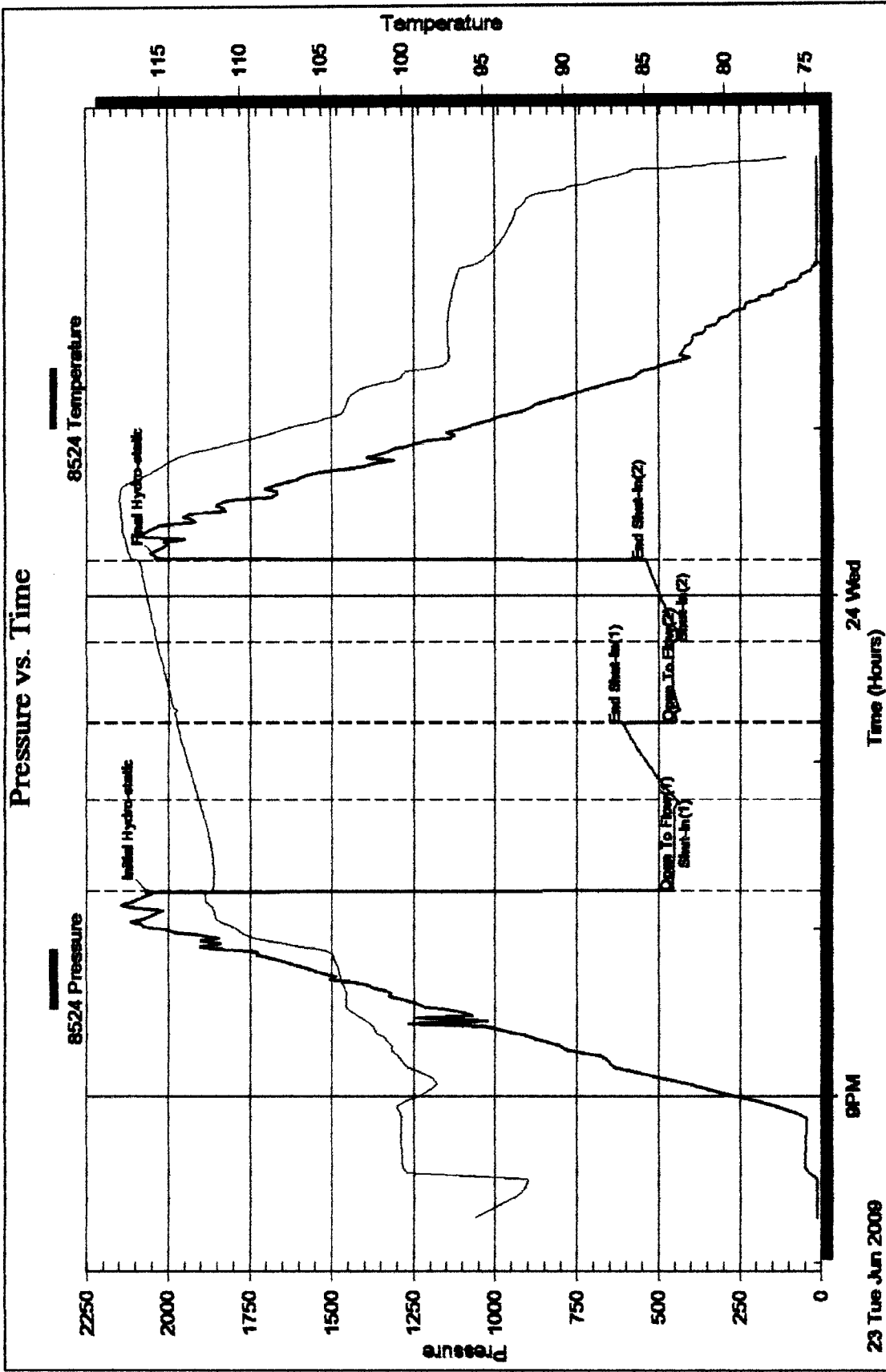
Serial #: 8524

Outside RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 7

### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION INC**

PO 783188 WICHITA KS  
67278

ATTN: MIKE ENGELBRECHT

**20-13-31W GOVE**

**HESS UNIT #1**

Start Date: 2009.06.24 @ 20:15:00

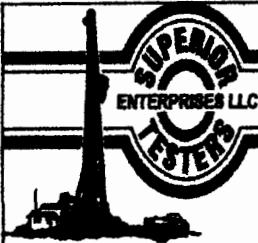
End Date: 2009.06.25 @ 03:22:24

Job Ticket #: 16852                      DST #: 8

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2009.06.29 @ 11:39:35

RITCHIE EXPLORATION INC  
HESS UNIT #1  
20-13-31W GOVE  
DST # 8  
MAY & F.S.  
2009.06.24



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16852

DST#: 8

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.24 @ 20:15:00

## GENERAL INFORMATION:

Formation: MY & F.S.

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:11:55

Time Test Ended: 03:22:24

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-60- SCOTT CITY

Interval: 4371.00 ft (KB) To 4420.00 ft (KB) (TVD)

Total Depth: 4420.00 ft (KB) (TVD)

Hole Diameter: 6.88 inches Hole Condition: Fair

Reference Elevations: 2886.00 ft (KB)

2877.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 27799

Inside

Press@RunDepth: 124.52 psia @ 4415.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2009.06.24

End Date: 2009.06.25

Last Calib.: 2009.06.25

Start Time: 20:15:25

End Time: 03:22:25

Time On Btm: 2009.06.24 @ 22:11:25

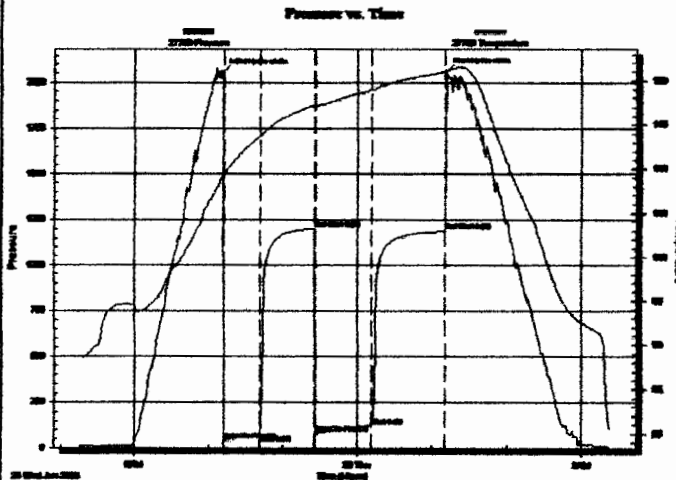
Time Off Btm: 2009.06.25 @ 01:11:25

TEST COMMENT: 30/INITIAL OPEN:WEAK BUILDING BLOW BUILT 5 INCHES INTO BUCKET IN 30 MINUTES

45/INITIAL SHUT IN:NO BLOW BACK

45/FINAL OPEN:WEAK BUILDING BLOW BUILT 5 1/2 INCHES INTO BCKET IN 45 MINUTES

60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2057.03	109.22	Initial Hydro-static
1	43.85	109.35	Open To Flow (1)
30	76.48	113.75	Shut-In(1)
74	1202.13	117.25	End Shut-In(1)
75	80.22	117.24	Open To Flow (2)
120	124.52	118.94	Shut-In(2)
179	1188.96	120.95	End Shut-In(2)
180	2061.26	121.02	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
50.00	WM 40%M 60%W	0.70
60.00	MW 30%M 70%W	0.84
60.00	MW 10%M 90%W	0.84

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcft)



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16852      DST#: 8

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.24 @ 20:15:00

## GENERAL INFORMATION:

Formation: **MY & F.S.**

Deviated: **No Whipstock**      ft (KB)

Time Tool Opened: 22:11:55

Time Test Ended: 03:22:24

Test Type: **Conventional Bottom Hole (Initial)**

Tester: **JARED SCHECK**

Unit No: **3320-50- SCOTT CITY**

Interval: **4371.00 ft (KB) To 4420.00 ft (KB) (TVD)**

Total Depth: **4420.00 ft (KB) (TVD)**

Hole Diameter: **6.88 inches** Hole Condition: **Fair**

Reference Elevations: **2886.00 ft (KB)**

**2877.00 ft (CF)**

KB to GR/CF: **9.00 ft**

Serial #: **8524**

**Outside**

Press@RunDepth: **1191.20 psia @ 4415.00 ft (KB)**

Capacity: **5000.00 psia**

Start Date: **2009.06.24**

End Date: **2009.06.25**

Last Calib.: **2009.06.25**

Start Time: **20:16:00**

End Time: **03:22:30**

Time On Btm: **2009.06.24 @ 22:11:00**

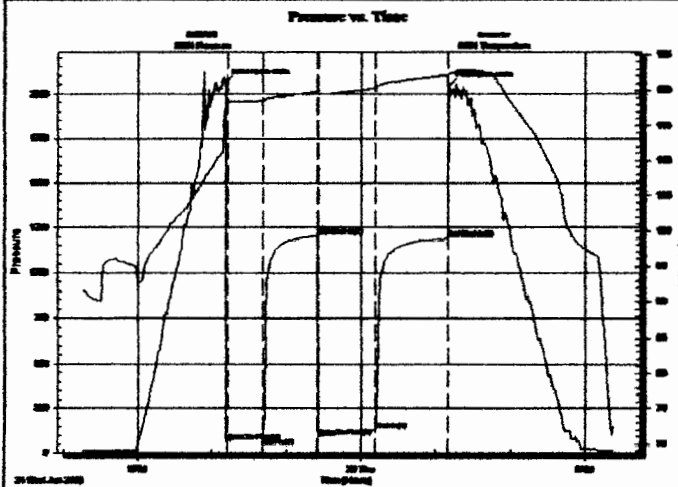
Time Off Btm: **2009.06.25 @ 01:11:00**

TEST COMMENT: **30/INITIAL OPENWEAK BUILDING BLOW BUILT 5 INCHES INTO BUCKET IN 30 MINUTES**

**45/INITIAL SHUT IN NO BLOW BACK**

**45/FINAL OPENWEAK BUILDING BLOW BUILT 6 1/2 INCHES INTO BCKET IN 45 MINUTES**

**60/FINAL SHUT IN NO BLOW BACK**



## PRESSURE SUMMARY

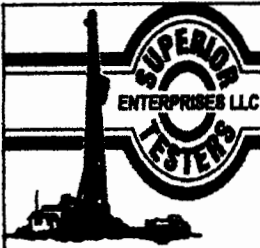
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2061.62	117.43	Initial Hydro-static
2	68.28	118.11	Open To Flow (1)
30	90.26	118.53	Shut-In (1)
74	1204.08	119.81	End Shut-In (1)
75	95.65	119.47	Open To Flow (2)
121	132.35	120.38	Shut-In (2)
179	1191.20	122.10	End Shut-In (2)
180	2045.74	122.37	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
50.00	WM 40%M 60%W	0.70
60.00	MW 30%M 70%W	0.84
60.00	MW 10%M 90%W	0.84

## Gas Rates

Choke (inches)	Pressure (psia)	Gas Rate (Mc/d)



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16852

DST#: 8

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.24 @ 20:15:00

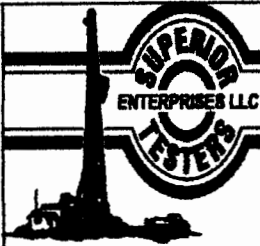
## Tool Information

Drill Pipe:	Length: 4364.00 ft	Diameter: 3.80 inches	Volume: 61.22 bbl	Tool Weight: 10000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 80000.00 lb
			<b>Total Volume: 61.22 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4371.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	49.00 ft			
Tool Length:	70.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4351.00	
Shut-in Tool	5.00			4356.00	
Hydrolic Tool	5.00			4361.00	
Packer	5.00			4366.00	21.00 Bottom Of Top Packer
Packer	5.00			4371.00	
Change Over Sub	0.75			4371.75	
Drill Pipe	32.50			4404.25	
Change Over Sub	0.75			4405.00	
Perforations	10.00			4415.00	
Recorder	0.00	27799	Inside	4415.00	
Recorder	0.00	8624	Outside	4415.00	
Bullnose	5.00			4420.00	49.00 Bottom Packers & Anchor

**Total Tool Length: 70.00**



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16852

DST#: 8

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.24 @ 20:15:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 70.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 23.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.10 ohm.m

Gas Cushion Pressure:

psia

Salinity: 23600.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
50.00	VM 40%M 60%W	0.701
60.00	MV 30%M 70%W	0.842
60.00	MV 10%M 90%W	0.842

Total Length: 170.00 ft      Total Volume: 2.385 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

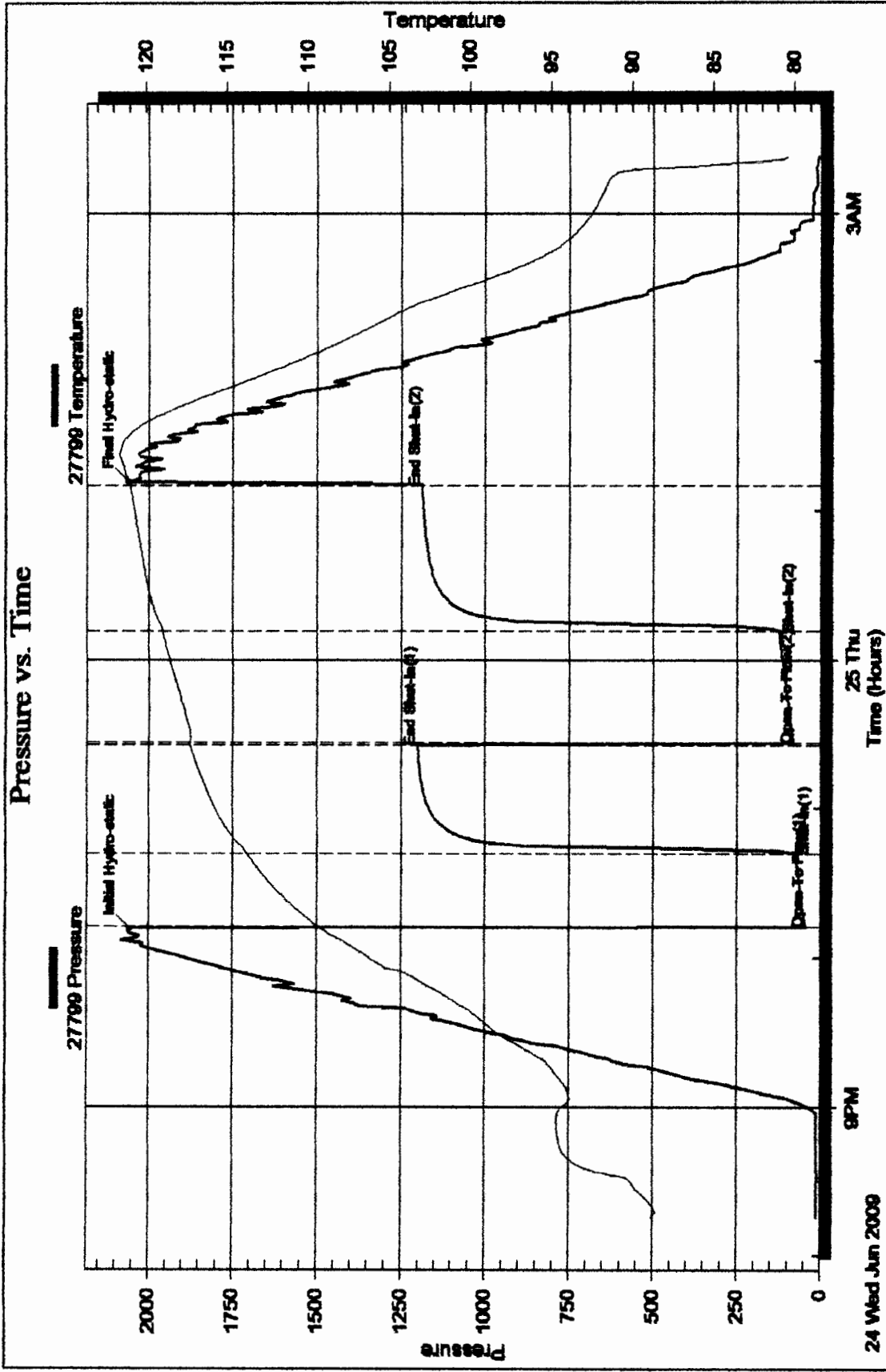
Recovery Comments: CHLORIDES 70,000 RESISTIVITY .176 DEGREES

Serial #: 27799

Inside RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 8

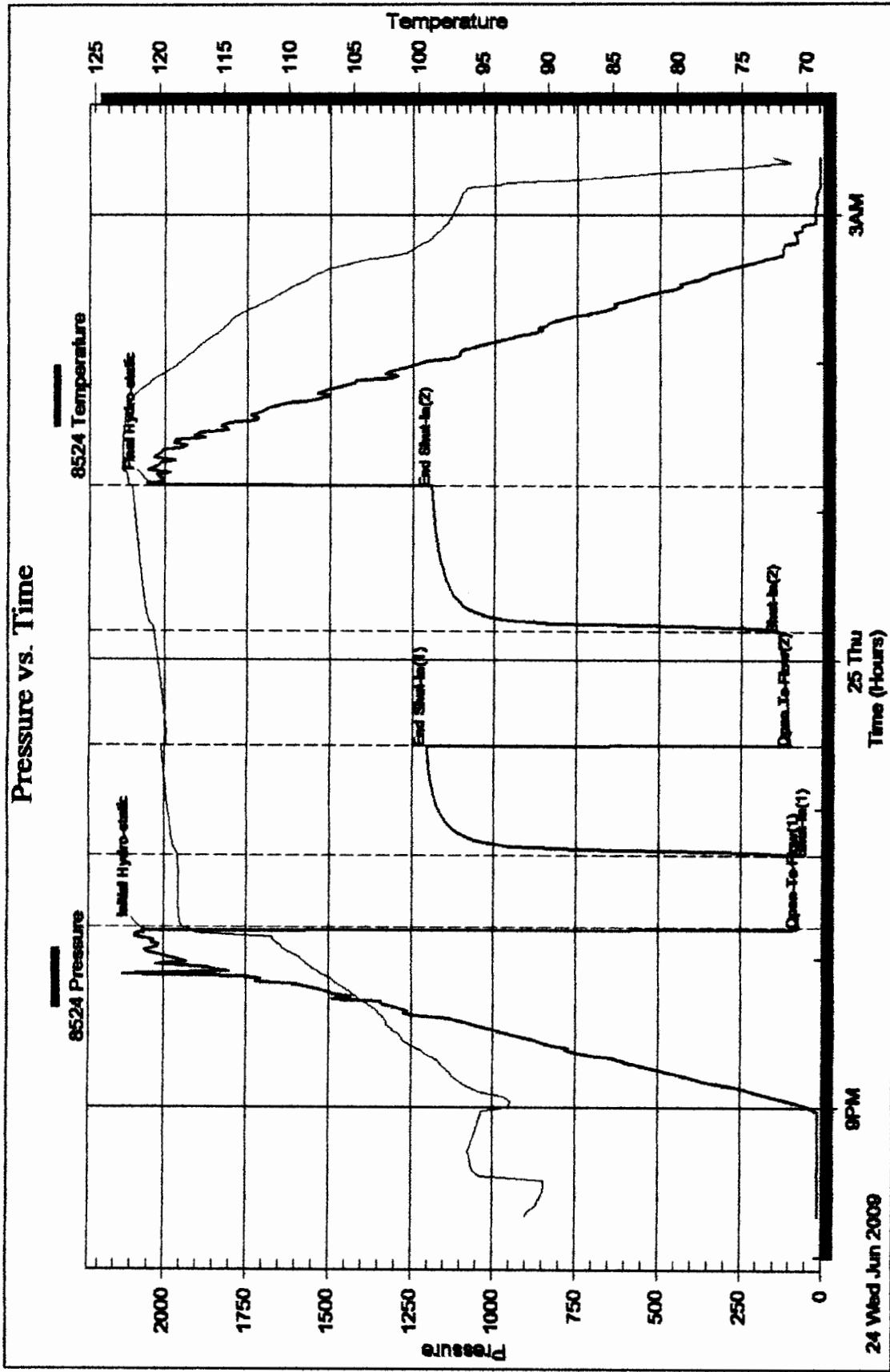


Serial #: 8524

Outside RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 8





## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION INC**

PO 783188 WICHITA KS  
67278

ATTN: MIKE ENGELBRECHT

**20-13-31W GOVE**

**HESS UNIT #1**

Start Date: 2009.06.25 @ 15:00:00

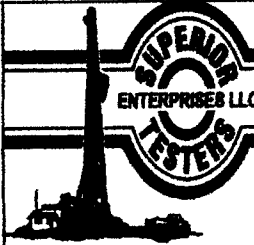
End Date: 2009.06.25 @ 23:09:55

Job Ticket #: 16853                      DST #: 9

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2009.06.29 @ 11:40:03

RITCHIE EXPLORATION INC  
HESS UNIT #1  
20-13-31W GOVE  
DST # 9  
CK-JO  
2009.06.25



# DRILL STEM TEST REPORT

RITCHIE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16853 DST#: 9

ATTN: MIKE ENGELBRECHT

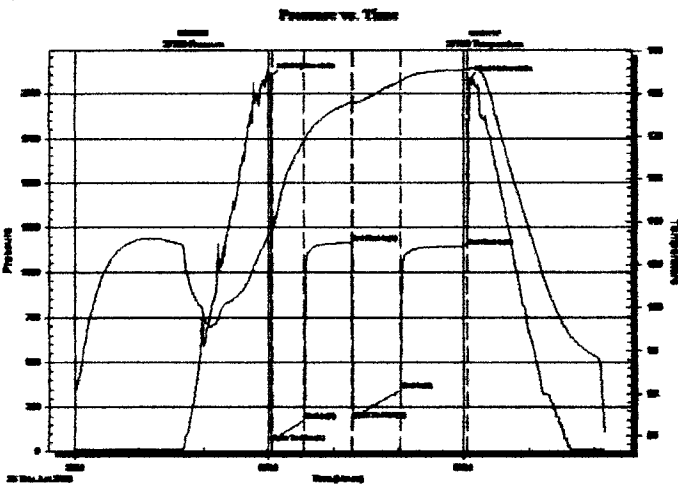
Test Start: 2009.06.25 @ 15:00:00

## GENERAL INFORMATION:

Formation: CK- JO  
 Deviated: No Whipstock ft (KB)  
 Time Tool Opened: 18:02:55  
 Time Test Ended: 23:09:55  
 Interval: 4428.00 ft (KB) To 4482.00 ft (KB) (TVD)  
 Total Depth: 4428.00 ft (KB) (TVD)  
 Hole Diameter: 6.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: JARED SCHECK  
 Unit No: 3320-50-SCOTT CITY  
 Reference Elevations: 2886.00 ft (KB)  
 2877.00 ft (CF)  
 KB to GR/CF: 9.00 ft

Serial #: 27799 Inside  
 Press@RunDepth: 345.94 psia @ 4477.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2009.06.25 End Date: 2009.06.25 Last Calib.: 2009.06.25  
 Start Time: 15:00:25 End Time: 23:09:55 Time On Btm: 2009.06.25 @ 18:02:25  
 Time Off Btm: 2009.06.25 @ 21:04:24

TEST COMMENT: 30/INITIAL OPEN: FAIR BLOW BUILT BOTTOM OF BUCKET 15 MINUTES  
 45/INITIAL SHUT IN: NO BLOW BACK  
 45/FINAL OPEN: FAIR BLOW BUILT BOTTOM OF BUCKET IN 15 MINUTES  
 60/FINAL SHUT IN: VERY WEAK SURFACE BLOW



## PRESSURE SUMMARY

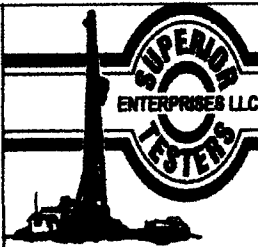
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2089.91	108.90	Initial Hydro-static
1	51.68	108.96	Open To Flow (1)
30	178.40	119.43	Shut-In(1)
75	1166.38	124.11	End Shut-In(1)
75	184.08	124.12	Open To Flow (2)
120	345.94	126.51	Shut-In(2)
181	1148.42	127.89	End Shut-In(2)
182	2077.33	127.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
75.00	GIP	1.05
45.00	O&GCM 10%G 10%W 20%O 60%M	0.63
120.00	SO&GMM 5%G 5%O 35%W 55%M	1.68
240.00	VSO&GMMW 2%O 3%G 10%M 85%W	3.37

## Gas Rates

Choke (inches)	Pressure (psia)	Gas Rate (Mcft)



# DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16853 DST#: 9

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.25 @ 15:00:00

## GENERAL INFORMATION:

Formation: CK- JO

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:02:55

Time Test Ended: 23:09:55

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-50-SCOTT CITY

Interval: 4428.00 ft (KB) To 4482.00 ft (KB) (TVD)

Reference Elevations: 2886.00 ft (KB)

Total Depth: 4428.00 ft (KB) (TVD)

2877.00 ft (CF)

Hole Diameter: 6.88 inches Hole Condition: Poor

KB to GR/CF: 9.00 ft

Serial #: 8524

Outside

Press@RunDepth: 1150.78 psia @ 4477.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2009.06.25

End Date:

2009.06.25

Last Calib.: 2009.06.25

Start Time: 15:01:00

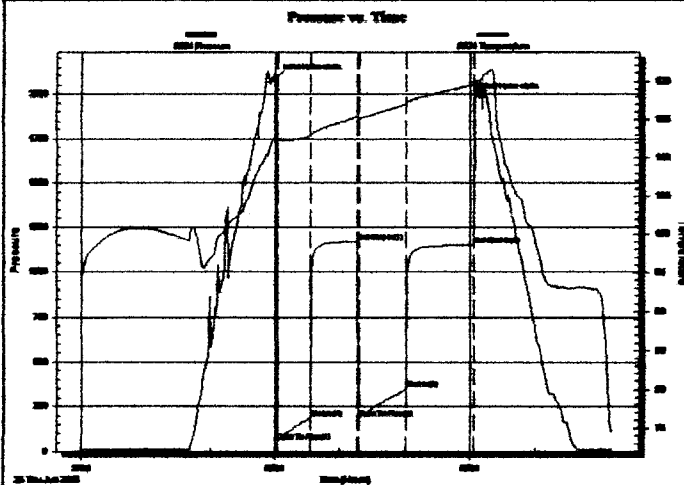
End Time:

23:12:00

Time On Btm: 2009.06.25 @ 18:02:00

Time Off Btm: 2009.06.25 @ 21:04:30

TEST COMMENT: 30/INITIAL OPEN:FAIR BLOW BUILT BOTTOM OF BUCKET 15 MINUTES  
45/INITIAL SHUT IN:NO BLOW BACK  
45/FINAL OPEN:FAIR BLOW BUILT BOTTOM OF BUCKET IN 15 MINUTES  
60/FINAL SHT IN :VERY WEAK SURFACE BLOW



## PRESSURE SUMMARY

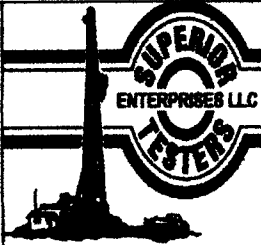
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2091.39	112.95	Initial Hydro-static
1	54.84	112.45	Open To Flow (1)
31	189.67	112.88	Shut-in(1)
75	1169.58	115.45	End Shut-in(1)
76	190.35	115.18	Open To Flow (2)
120	349.72	117.00	Shut-in(2)
182	1150.78	119.60	End Shut-in(2)
183	1989.07	119.89	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
75.00	GP	1.05
45.00	O&GCM 10%G 10%W 20%O 60%M	0.63
120.00	SO&GMM 5%G 5%O 35%W 55%M	1.68
240.00	VSO&GMMW 2%O 3%G 10%M 85%W	3.37

## Gas Rates

	Choke (Inches)	Pressure (psia)	Gas Rate (Mcfd)



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION INC

HESS UNIT #1

PO 783188 WICHITA KS  
67278

20-13-31W GOVE

Job Ticket: 16853

DST#: 9

ATTN: MIKE ENGELBRECHT

Test Start: 2009.06.25 @ 15:00:00

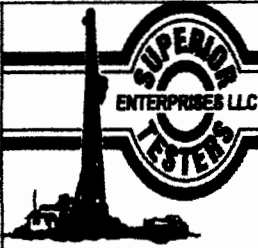
### Tool Information

Drill Pipe:	Length: 4429.00 ft	Diameter: 3.80 inches	Volume: 62.13 bbl	Tool Weight: 10000.00 lb
Heavy WL Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Full Loose: 68000.00 lb
			<u>Total Volume: 62.13 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4428.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	75.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4408.00	
Shut-In Tool	5.00			4413.00	
Hydraulic Tool	5.00			4418.00	
Packer	5.00			4423.00	21.00 Bottom Of Top Packer
Packer	5.00			4428.00	
Change Over Sub	0.75			4428.75	
Drill Pipe	31.50			4460.25	
Change Over Sub	0.75			4461.00	
Perforations	16.00			4477.00	
Recorder	0.00	27799	Inside	4477.00	
Recorder	0.00	8524	Outside	4477.00	
Bullnose	5.00			4482.00	54.00 Bottom Packers & Anchor

**Total Tool Length: 75.00**



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION INC  
 PO 783188 WICHITA KS  
 67278  
 ATTN: MIKE ENGELBRECHT

HESS UNIT #1  
 20-13-31W GOVE  
 Job Ticket: 16853      DST#: 9  
 Test Start: 2009.06.25 @ 15:00:00

## Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:		deg API
Mud Weight:	9.00 lb/gal	Cushion Length:		Water Salinity:		ppm
Viscosity:	57.00 sec/qt	Cushion Volume:				
Water Loss:	9.19 in <sup>3</sup>	Gas Cushion Type:				
Resistivity:	0.15 ohm.m	Gas Cushion Pressure:				
Salinity:	5600.00 ppm					
Filter Cake:	1.00 inches					

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
75.00	GP	1.052
45.00	O&GCM 10%G 10%W 20%O 60%M	0.631
120.00	SO&GMM 5%G 5%O 35%W 55%M	1.683
240.00	VSOGCMW 2%O 3%G 10%M 85%W	3.367

Total Length: 480.00 ft      Total Volume: 6.733 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: CHLORIDES 43,000

DST Test Number: 9

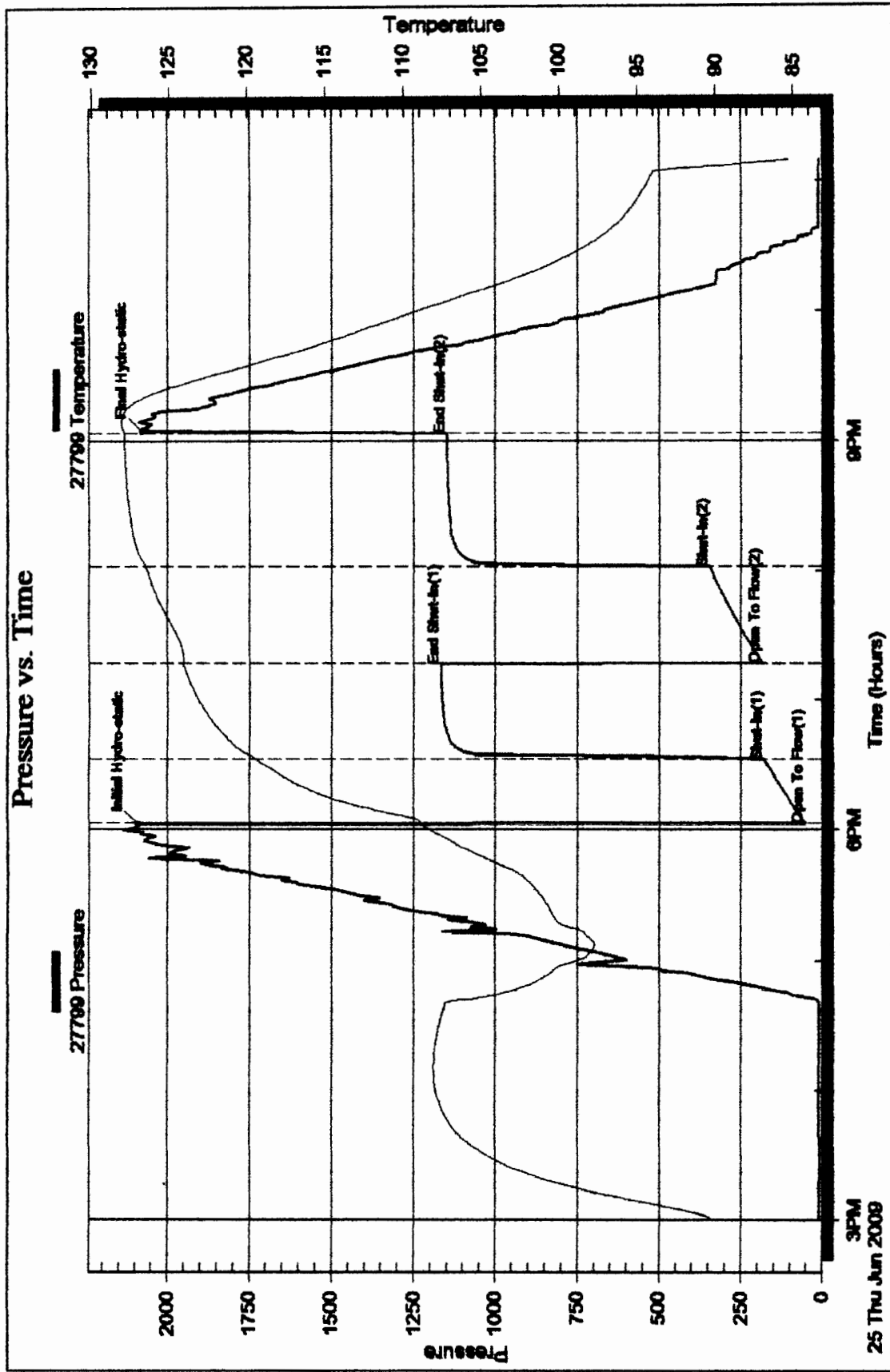
20-13-31W GOVE

RITCHE EXPLORATION INC

Inside

Serial #: 27799

### Pressure vs. Time



3PM  
25 Thu Jun 2008

Printed: 2008.06.29 @ 11:40:03

Ref. No: 18853

Superior Testers Enterprises LLC

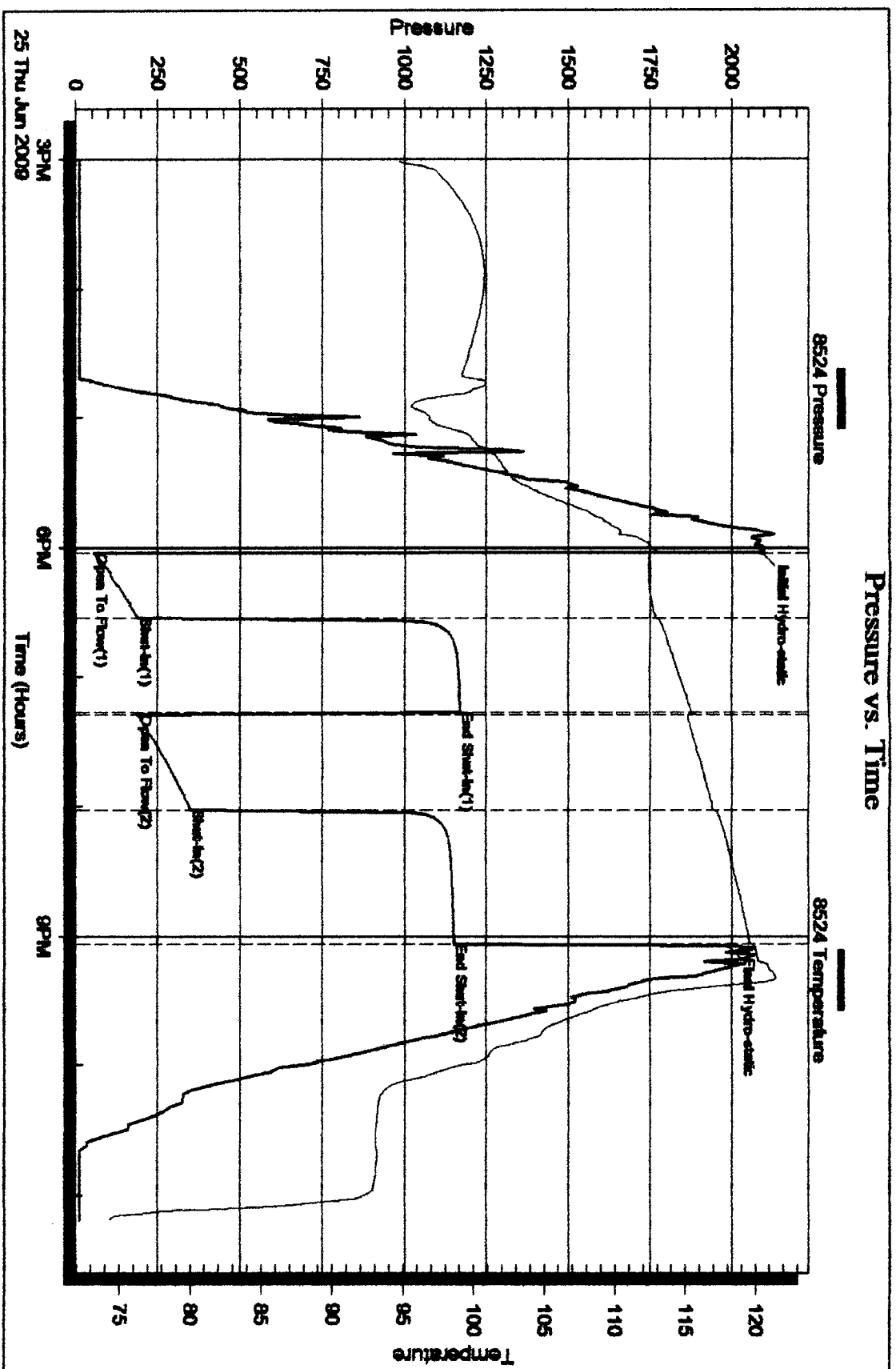
Serial # 8524

Outside RITCHE EXPLORATION INC

20-13-31W GOVE

DST Test Number: 9

### Pressure vs. Time



Superior Testers Enterprises LLC

Ref. No: 16853

Printed: 2009.06.29 @ 11:40:03