

15-057-20647

21-27s-23w



DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION INC**

8100 E 22ND ST N #700 WICHITA KS 67278

ATTN: MIKE ENGELBRECHT

21-27-23W FORD

MAVERICK #1

Start Date: 2009.12.02 @ 19:38:00

End Date: 2009.12.03 @ 05:33:30

Job Ticket #: 16186 DST #: 1

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

Printed: 2009.12.03 @ 05:50:17

RITCHIE EXPLORATION INC

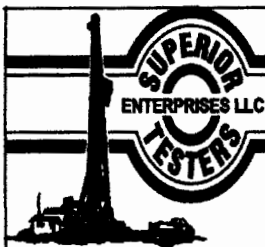
MAVERICK #1

21-27-23W FORD

DST # 1

MORROW

2009.12.02



DRILL STEM TEST REPORT

RITCHIE EXPLORATION INC

MAVERICK #1

8100 E 22ND ST N #700 WICHITA KS 67278

21-27-23W FORD

ATTN: MIKE ENGELBRECHT

Job Ticket: 16186

DST#: 1

Test Start: 2009.12.02 @ 19:38:00

GENERAL INFORMATION:

Formation: **MORROW**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:55:30

Time Test Ended: 05:33:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-GB-170

Interval: 4902.00 ft (KB) To 4947.00 ft (KB) (TVD)

Total Depth: 4947.00 ft (KB) (TVD)

Hole Diameter: 6.88 inches Hole Condition: Fair

Reference Elevations: 2420.00 ft (KB)

2408.00 ft (CF)

KB to GR/CF: 12.00 ft

Serial #: 8524

Inside

Press@RunDepth: 863.16 psia @ 4942.00 ft (KB)

Start Date: 2009.12.02

End Date: 2009.12.03

Capacity: 5000.00 psia

Last Calib.: 2009.12.03

Start Time: 19:39:00

End Time: 05:33:30

Time On Btm: 2009.12.02 @ 21:53:30

Time Off Btm: 2009.12.03 @ 02:59:00

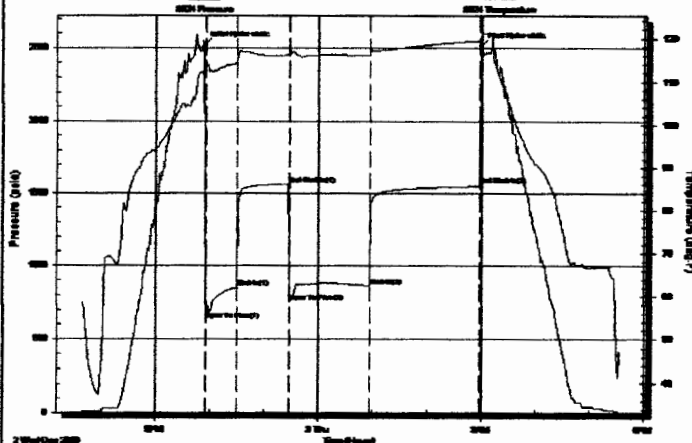
TEST COMMENT: 30/INITIAL OPEN:STRONG BLOW BUILT BOTTOM OF BUCKET LESS THEN 1 MINUTE

60/INITIAL SHUT IN :BOTTOM OF BUCKET

90/FINAL OPEN:STRONG BLOW BUILT BOTTOM OF BUCKET IN LESS THEN 1 MINUTE

120/FINAL SHUT IN:BOTTOM OF BUCKET

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2515.54	111.79	Initial Hydro-static
2	625.09	114.07	Open To Flow (1)
37	848.21	114.25	Shut-In(1)
94	1564.90	116.19	End Shut-In(1)
95	755.21	115.95	Open To Flow (2)
183	863.16	115.99	Shut-In(2)
305	1560.96	119.40	End Shut-In(2)
306	2513.94	120.01	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	OIL CUT MW 5%M 5%W 90%O	0.42
60.00	SO & M CUT WATER 5%O 40%M 55%W	0.84

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	97.30	2797.26
Last Gas Rate	1.00	130.70	3757.47
Max. Gas Rate	1.00	130.70	3757.47



DRILL STEM TEST REPORT

RITCHE EXPLORATION INC

MAVERICK #1

8100 E 22ND ST N #700 WICHITA KS 67278

21-27-23W FORD

ATTN: MIKE ENGELBRECHT

Job Ticket: 16186

DST#: 1

Test Start: 2009.12.02 @ 19:38:00

GENERAL INFORMATION:

Formation: **MORROW**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:55:30

Time Test Ended: 05:33:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-GB-170

Interval: 4902.00 ft (KB) To 4947.00 ft (KB) (TVD)

Total Depth: 4947.00 ft (KB) (TVD)

Hole Diameter: 6.88 inches Hole Condition: Fair

Reference Elevations: 2420.00 ft (KB)

2408.00 ft (CF)

KB to GR/CF: 12.00 ft

Serial #: 8419

Outside

Press@RunDepth: 1550.10 psia @ 4942.00 ft (KB)

Start Date: 2009.12.02

End Date: 2009.12.03

Capacity: 5000.00 psia

Last Calib.: 2009.12.03

Start Time: 19:39:00

End Time: 05:08:00

Time On Btm: 2009.12.02 @ 21:54:00

Time Off Btm: 2009.12.03 @ 03:00:00

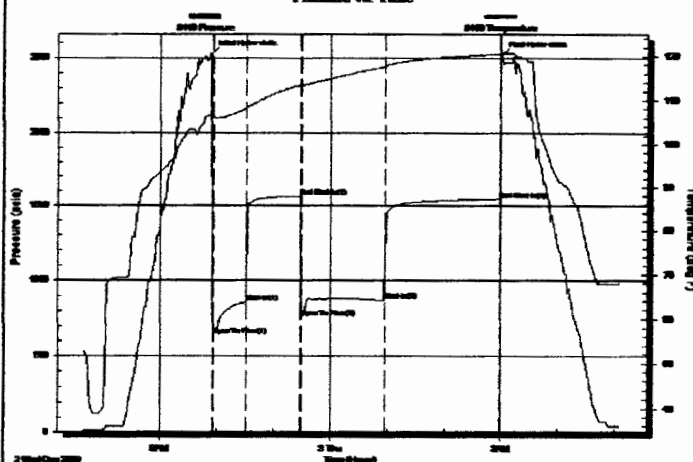
TEST COMMENT: 30/INITIAL OPEN:STRONG BLOW BUILT BOTTOM OF BUCKET LESS THEN 1 MINUTE

60/INITIAL SHUT IN :BOTTOM OF BUCKET

90/FINAL OPEN:STRONG BLOW BUILT BOTTOM OF BUCKET IN LESS THEN 1 MINUTE

120/FINAL SHUT IN:BOTTOM OF BUCKET

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2521.20	106.61	Initial Hydro-static
2	639.12	106.06	Open To Flow (1)
37	856.65	108.14	Shut-In(1)
94	1568.03	113.49	End Shut-In(1)
96	758.39	113.31	Open To Flow (2)
183	867.88	117.62	Shut-In(2)
305	1550.10	120.50	End Shut-In(2)
306	2517.80	120.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	OIL CUT MW 5%M 5%W 90%O	0.42
60.00	SO &M CUT WATER 5%O 40%M 55%W	0.84

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	97.30	2797.26
Last Gas Rate	1.00	130.70	3757.47
Max. Gas Rate	1.00	130.70	3757.47



DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHIE EXPLORATION INC

MAVERICK #1

8100 E 22ND ST N #700 WICHITA KS 67278

21-27-23W FORD

ATTN: MIKE ENGELBRECHT

Job Ticket: 16186

DST#: 1

Test Start: 2009.12.02 @ 19:38:00

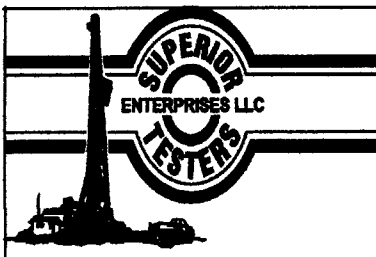
Tool Information

Drill Pipe:	Length: 4907.00 ft	Diameter: 3.80 inches	Volume: 68.83 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: 70000.00 lb
		Total Volume: 68.83 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	4902.00 ft			Final 53000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	68.00 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			4880.00	
Shut-In Tool	5.00			4885.00	
Hydrolic Tool	5.00			4890.00	
Safety Joint	2.00			4892.00	
Packer	5.00			4897.00	23.00 Bottom Of Top Packer
Packer	5.00			4902.00	
Perforations	40.00			4942.00	
Recorder	0.00	8524	Inside	4942.00	
Recorder	0.00	8419	Outside	4942.00	
Bullnose	5.00			4947.00	45.00 Bottom Packers & Anchor
Total Tool Length:	68.00				



DRILL STEM TEST REPORT

GAS RATES

RITCHE EXPLORATION INC

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ATTN: MIKE ENGELBRECHT

Test Start: 2009.12.02 @ 19:38:00

Gas Rates Information

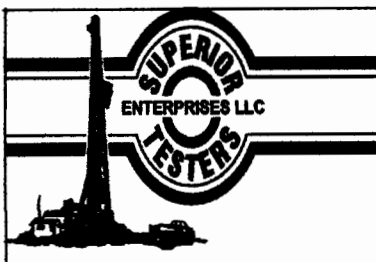
Temperature: 59 (deg F)

Relative Density: 0.65

Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
1	10	1.00	97.30	2797.26
1	20	1.00	118.00	3392.36
1	30	1.00	123.00	3536.10
2	10	1.00	101.00	2903.63
2	20	1.00	130.70	3757.47
2	30	1.00	126.40	3633.85
2	40	1.00	130.70	3757.47
2	50	1.00	130.70	3757.47
2	60	1.00	130.70	3757.47
2	70	1.00	130.70	3757.47
2	80	1.00	130.70	3757.47
2	90	1.00	130.70	3757.47



DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION INC

MAVERICK #1

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21-27-23W FORD

Job Ticket: 16186

DST#: 1

ATTN: MIKE ENGELBRECHT

Test Start: 2009.12.02 @ 19:38:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	OIL CUT MW 5%M 5%W 90%O	0.421
60.00	SO & M CUT WATER 5%O 40%M 55%W	0.842

Total Length: 90.00 ft

Total Volume: 1.263 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

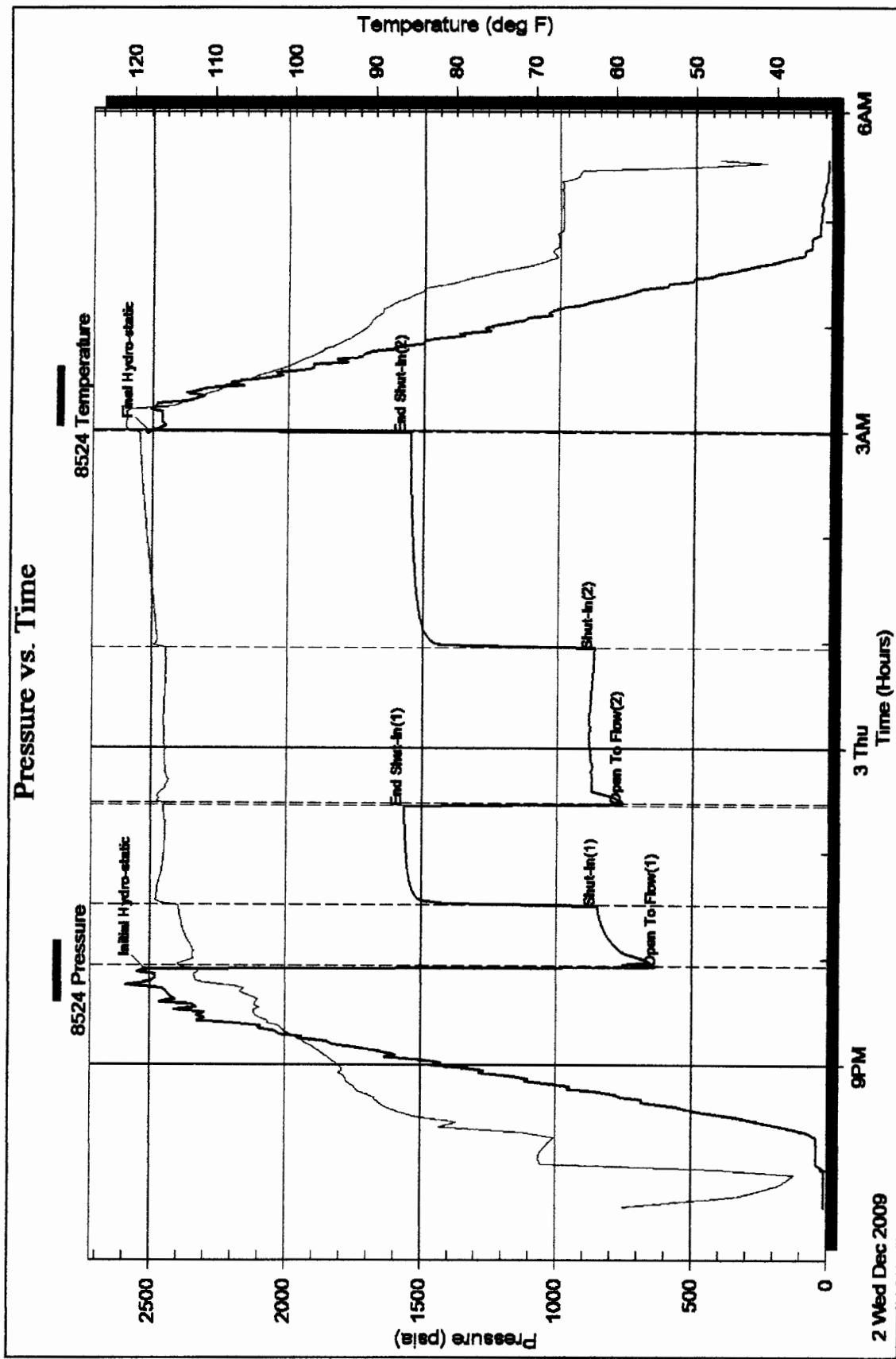
Serial #: 8524

Inside

RITCHIE EXPLORATION INC

21-27-23W FORD

DST Test Number: 1



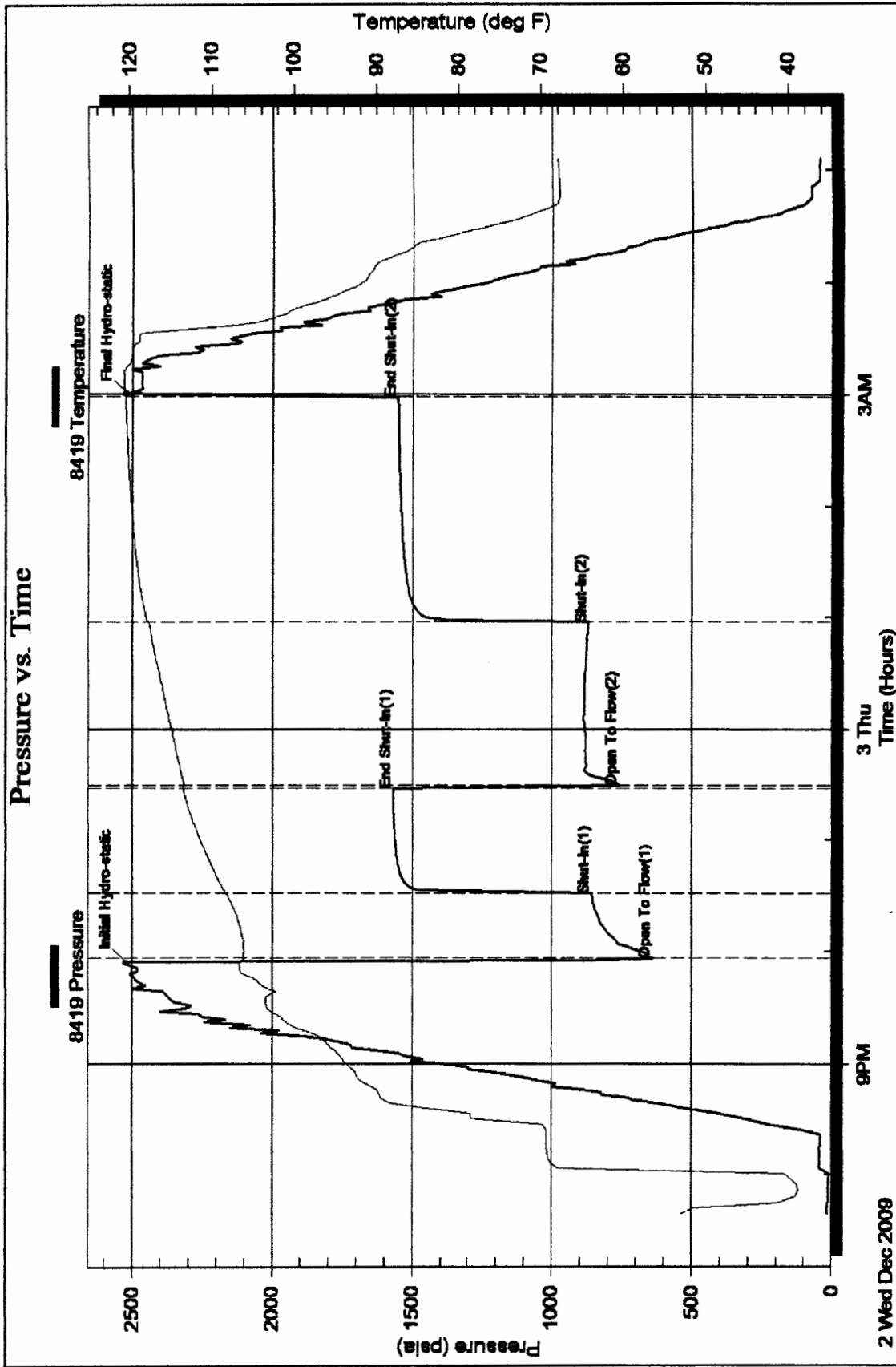
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Outside

RITCHIE EXPLORATION INC

21-27-23W FORD

DST Test Number: 1



Superior Testers Enterprises LLC

Ref. No: 16186

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