



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration Inc.
8100 E 22nd St. N#700
Wichita, KS 67278
ATTN: Jeff Christian

13/13s/32w/Logan/KS

#1 Eaton 13CD

Job Ticket: 43746

DST#: 1

Test Start: 2011.12.14 @ 16:55:00

GENERAL INFORMATION:

Formation: **LKC "F-H"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 19:08:45
 Time Test Ended: 00:10:00
 Interval: **4060.00 ft (KB) To 4156.00 ft (KB) (TVD)**
 Total Depth: 4156.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Kevin Mack
 Unit No: 43
 Reference Elevations: 2959.00 ft (KB)
 2949.00 ft (CF)
 KB to GR/CF: 10.00 ft

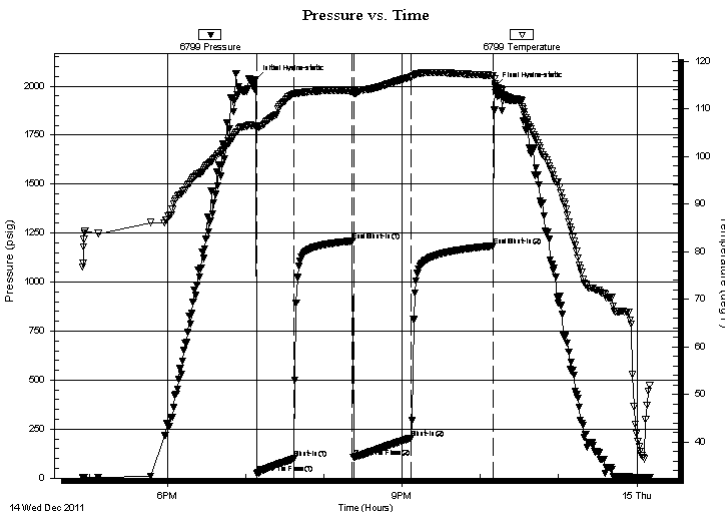
Serial #: 6799

Inside

Press @ Run Depth: 204.87 psig @ 4061.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2011.12.14 End Date: 2011.12.15 Last Calib.: 2011.12.15
 Start Time: 16:55:05 End Time: 00:09:59 Time On Btm: 2011.12.14 @ 19:07:45
 Time Off Btm: 2011.12.14 @ 22:11:15

TEST COMMENT: IF- 1/4" Blow built to 7 1/2"
 IS- No Return
 FF- Blow started at 5 min. Built to 8"
 FS- No Return

PRESSURE SUMMARY



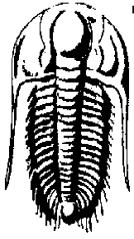
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2035.03	106.45	Initial Hydro-static
1	23.35	105.99	Open To Flow (1)
29	98.88	113.18	Shut-In(1)
74	1209.84	113.77	End Shut-In(1)
75	105.84	113.30	Open To Flow (2)
119	204.87	116.69	Shut-In(2)
182	1184.78	117.04	End Shut-In(2)
184	1997.93	115.32	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	OSMW 90W 10M (oil spots)	0.44
180.00	OSMW 85W 15M (oil spots)	0.89
120.00	OCVM 35W 60M 5o	0.59
10.00	Free Oil 100o	0.05

Gas Rates

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



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13/13s/32w/Logan/KS

8100 E 22nd St. N#700
Wichita, KS 67278

#1 Eaton 13CD

Job Ticket: 43746

DST#: 1

ATTN: Jeff Christian

Test Start: 2011.12.14 @ 16:55:00

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:

25000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.60 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
90.00	OSMW 90W 10M (oil spots)	0.443
180.00	OSMW 85W 15M (oil spots)	0.885
120.00	OCWM 35W 60M 5o	0.590
10.00	Free Oil 100o	0.049

Total Length: 400.00 ft Total Volume: 1.967 bbl

Num Fluid Samples: 0

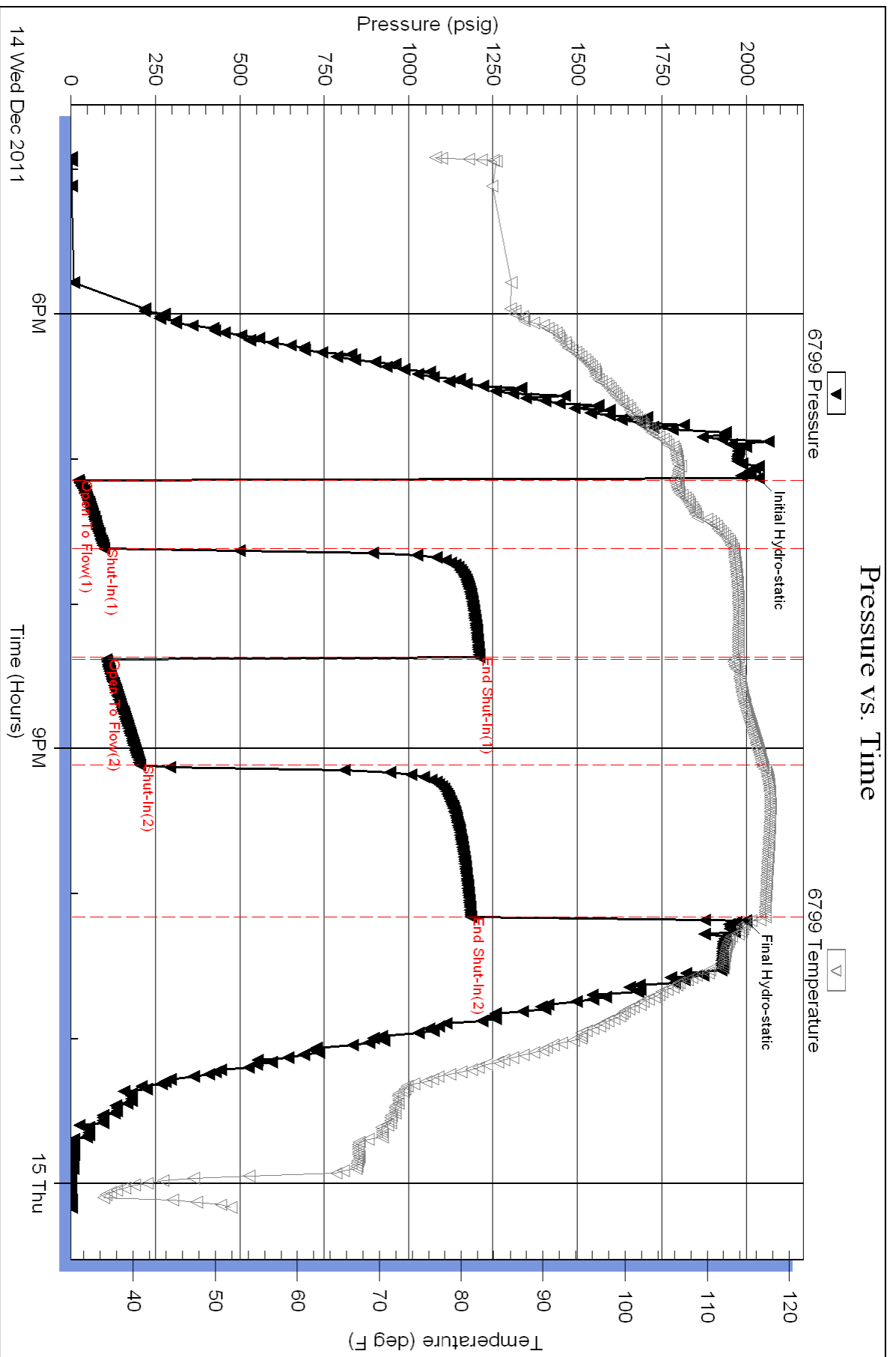
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .28 @ 71 deg = 25000ppm



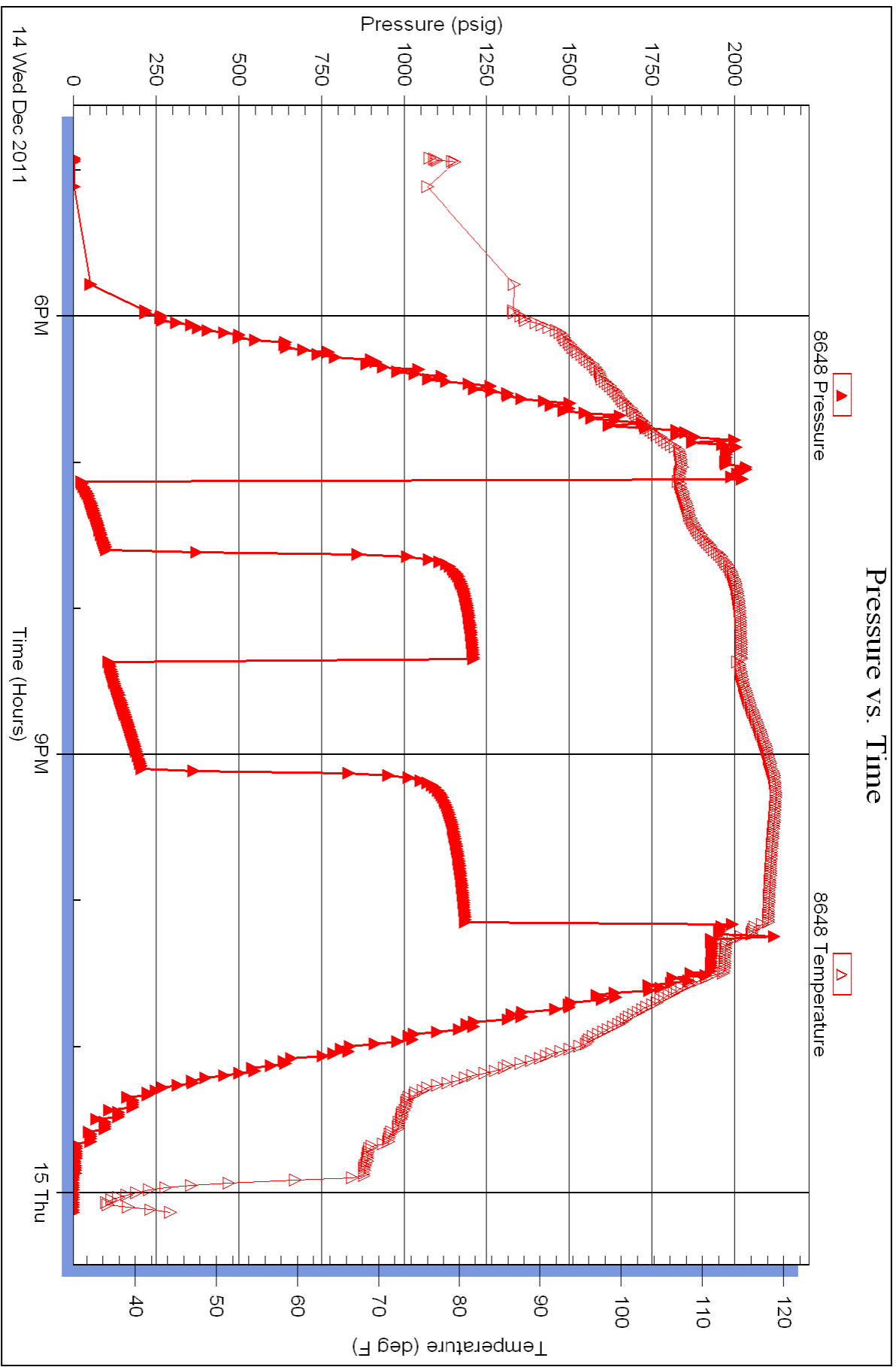
Serial #: 8648

Inside

Ritchie Exploration Inc.

#1 Eaton 13CD

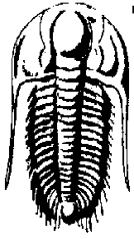
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 43746

Printed: 2011.12.15 @ 08:30:22



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Ritchie Exploration Inc.
8100 E 22nd St. N#700
Wichita, KS 67278
ATTN: Jeff Christian

13/13s/32w/Logan/KS

#1 Eaton 13CD

Job Ticket: 43747

DST#: 2

Test Start: 2011.12.15 @ 11:45:00

GENERAL INFORMATION:

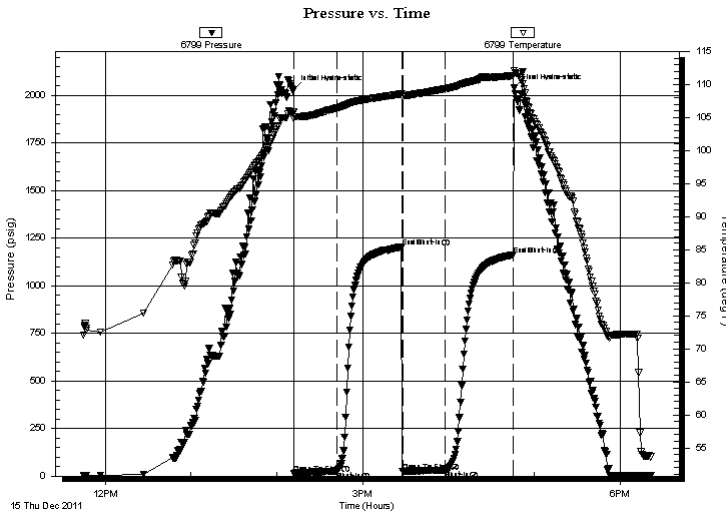
Formation: **LKC "J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:12:00
 Time Test Ended: 18:21:15
 Interval: **4184.00 ft (KB) To 4218.00 ft (KB) (TVD)**
 Total Depth: 4218.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Kevin Mack
 Unit No: 43
 Reference Elevations: 2959.00 ft (KB)
 2949.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 6799

Press @ Run Depth: 31.11 psig @ ft (KB) Capacity: 8000.00 psig
 Start Date: 2011.12.15 End Date: 2011.12.15 Last Calib.: 2011.12.15
 Start Time: 11:45:05 End Time: 18:21:14 Time On Btm: 2011.12.15 @ 14:11:45
 Time Off Btm: 2011.12.15 @ 16:45:45

TEST COMMENT: IF- 1/8" Blow built to 1 1/4"
 IS- No Return
 FF- No Blow
 FS- No Return

PRESSURE SUMMARY



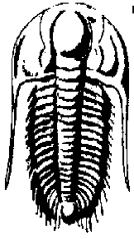
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2030.54	105.86	Initial Hydro-static
1	15.80	104.84	Open To Flow (1)
30	26.12	106.46	Shut-In(1)
76	1204.61	108.61	End Shut-In(1)
76	26.42	108.37	Open To Flow (2)
106	31.11	109.38	Shut-In(2)
154	1163.60	111.37	End Shut-In(2)
154	2038.91	112.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM 100M (oil spots)	0.05

Gas Rates

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



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Ritchie Exploration Inc.

13/13s/32w/Logan/KS

8100 E 22nd St. N#700
Wichita, KS 67278

#1 Eaton 13CD

Job Ticket: 43747

DST#: 2

ATTN: Jeff Christian

Test Start: 2011.12.15 @ 11:45:00

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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.80 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2300.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OSM 100M (oil spots)	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

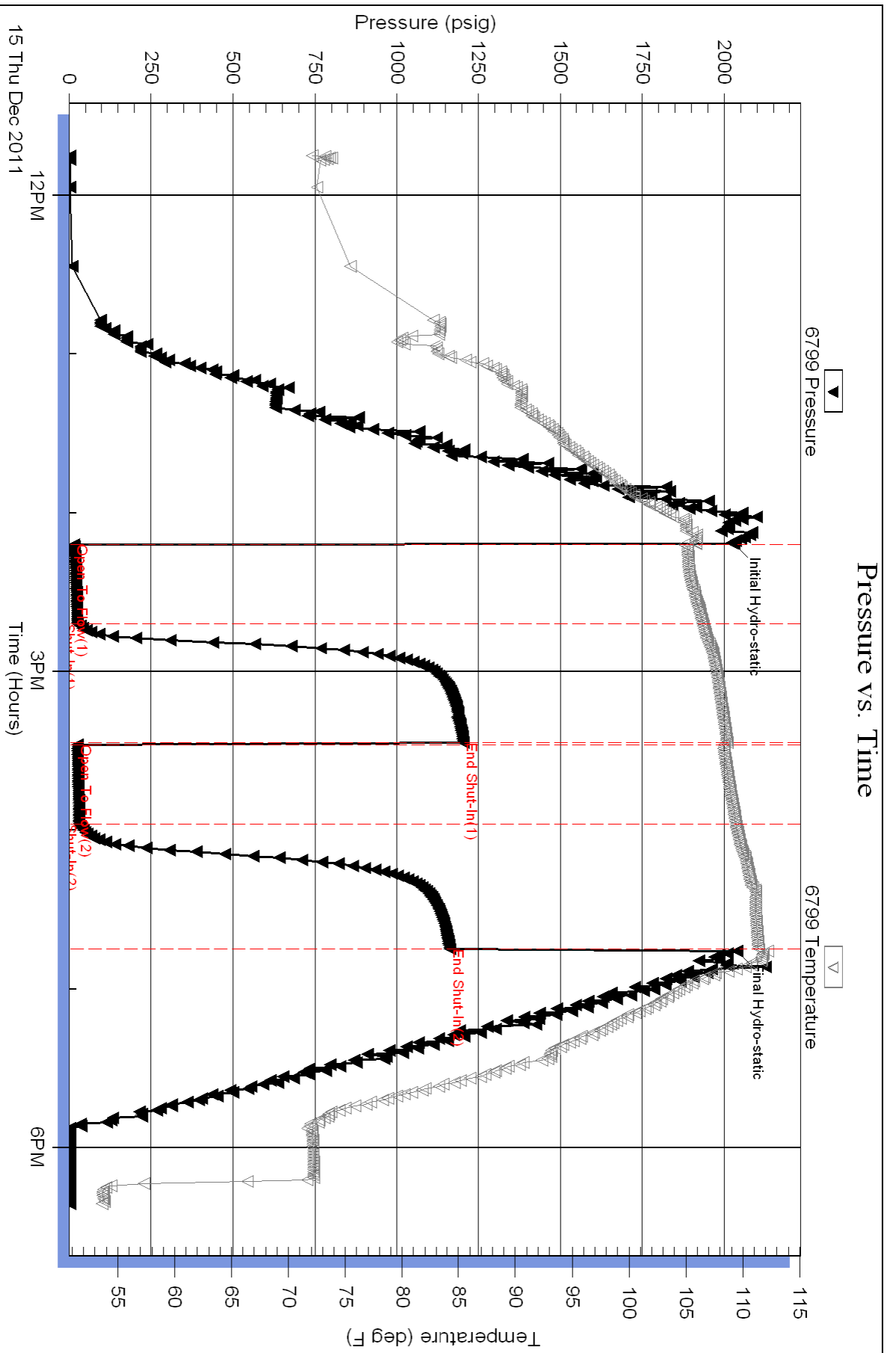
Num Gas Bombs: 0

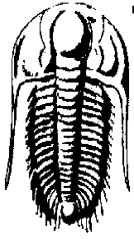
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





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Ritchie Exploration Inc.
8100 E 22nd St. N#700
Wichita, KS 67278
ATTN: Jeff Christian

13/13s/32w/Logan/KS

#1 Eaton 13CD

Job Ticket: 43748

DST#: 3

Test Start: 2011.12.16 @ 00:54:00

GENERAL INFORMATION:

Formation: **LKC "K"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 03:34:45
 Time Test Ended: 08:29:45
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Kevin Mack
 Unit No: 43
 Interval: **4213.00 ft (KB) To 4248.00 ft (KB) (TVD)**
 Total Depth: 4248.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Reference Elevations: 2959.00 ft (KB)
 2949.00 ft (CF)
 KB to GR/CF: 10.00 ft

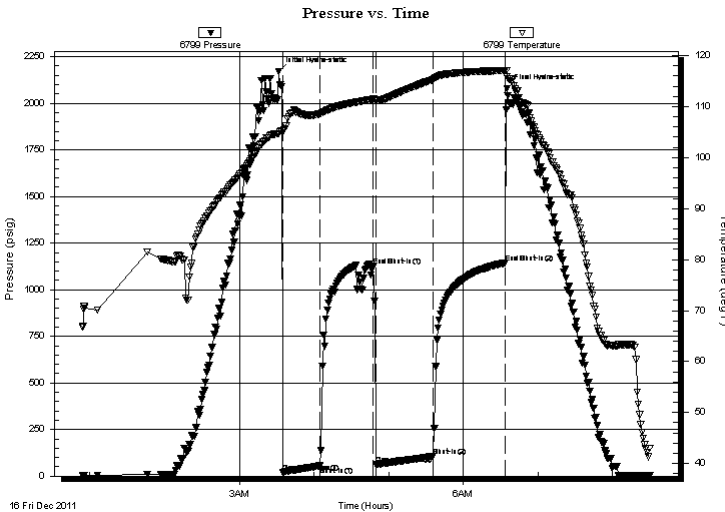
Serial #: 6799

Inside

Press @ Run Depth: 106.49 psig @ 4214.00 ft (KB)
 Start Date: 2011.12.16 End Date: 2011.12.16
 Start Time: 00:54:05 End Time: 08:29:44
 Capacity: 8000.00 psig
 Last Calib.: 2011.12.16
 Time On Btm: 2011.12.16 @ 03:31:45
 Time Off Btm: 2011.12.16 @ 06:35:00

TEST COMMENT: IF- 1/4" Blow built to 4"
 IS- No Return
 FF- Surface blow built to 4"
 FS- No Return

PRESSURE SUMMARY



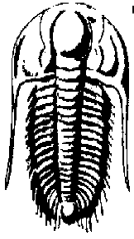
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2171.59	104.74	Initial Hydro-static
3	18.93	105.16	Open To Flow (1)
33	55.36	108.57	Shut-In(1)
76	1126.22	111.45	End Shut-In(1)
78	60.89	111.20	Open To Flow (2)
124	106.49	115.30	Shut-In(2)
182	1144.52	117.02	End Shut-In(2)
184	2078.87	115.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
190.00	OSMW 25M75W (oil spots)	0.93

Gas Rates

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



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13/13s/32w/Logan/KS

8100 E 22nd St. N#700
Wichita, KS 67278

#1 Eaton 13CD

Job Ticket: 43748

DST#: 3

ATTN: Jeff Christian

Test Start: 2011.12.16 @ 00:54:00

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:

16000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.80 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2300.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
190.00	OSMW 25M 75W (oil spots)	0.934

Total Length: 190.00 ft Total Volume: 0.934 bbl

Num Fluid Samples: 0

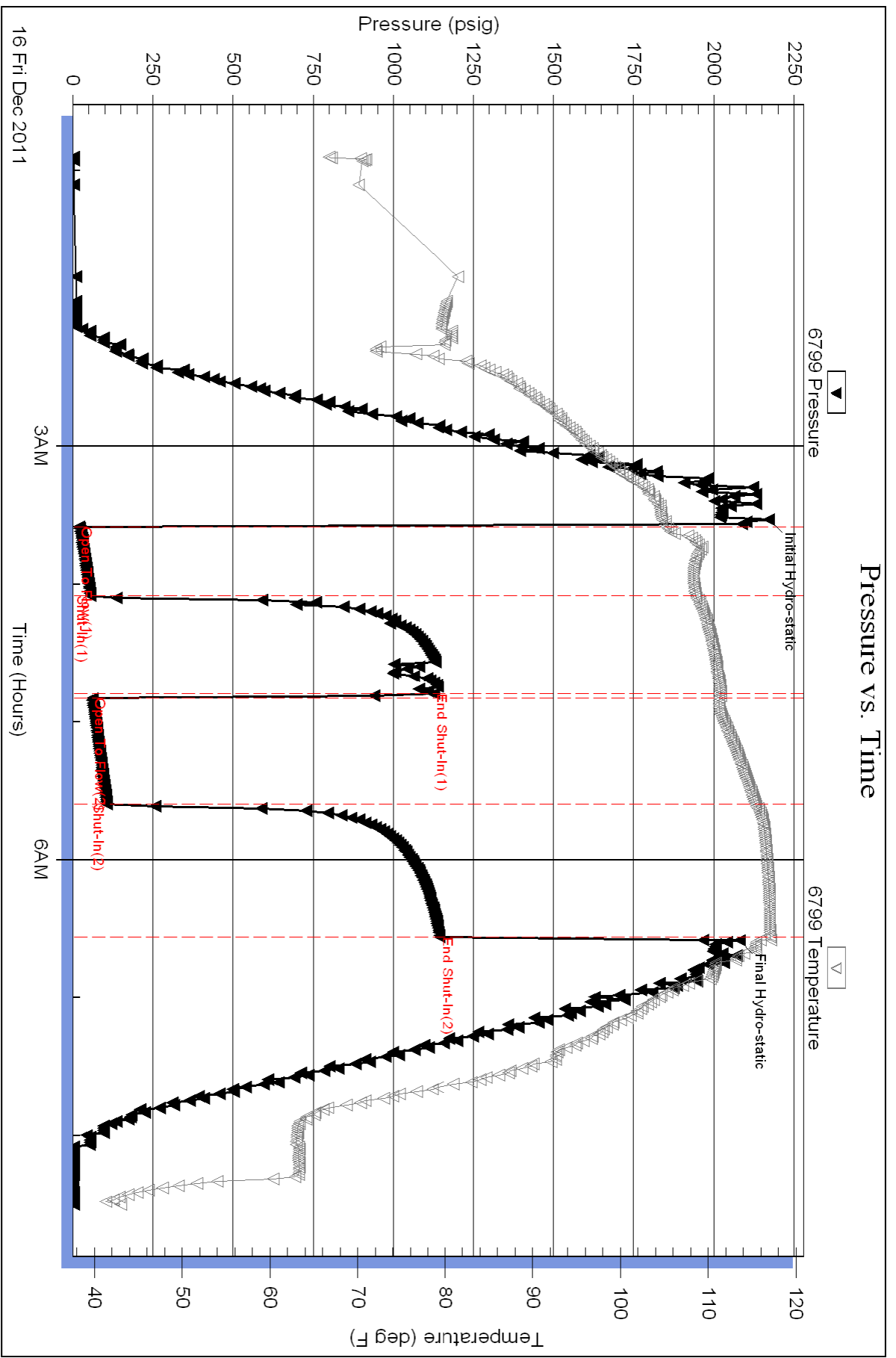
Num Gas Bombs: 0

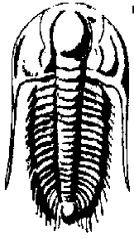
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .43 @ 72 deg. = 16000ppm





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8100 E 22nd St. N#700
Wichita, KS 67278
ATTN: Jeff Christian

13/13s/32w/Logan/KS

#1 Eaton 13CD

Job Ticket: 43749

DST#: 4

Test Start: 2011.12.17 @ 11:49:00

GENERAL INFORMATION:

Formation: **Ft. Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:16:45

Time Test Ended: 18:32:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 43

Interval: 4461.00 ft (KB) To 4493.00 ft (KB) (TVD)

Reference Elevations: 2959.00 ft (KB)

Total Depth: 4492.00 ft (KB) (TVD)

2949.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6799 Inside

Press @ Run Depth: 19.15 psig @ 4462.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.12.17

End Date:

2011.12.17

Last Calib.:

2011.12.17

Start Time: 11:49:05

End Time:

18:32:44

Time On Btm:

2011.12.17 @ 14:16:00

Time Off Btm:

2011.12.17 @ 16:46:00

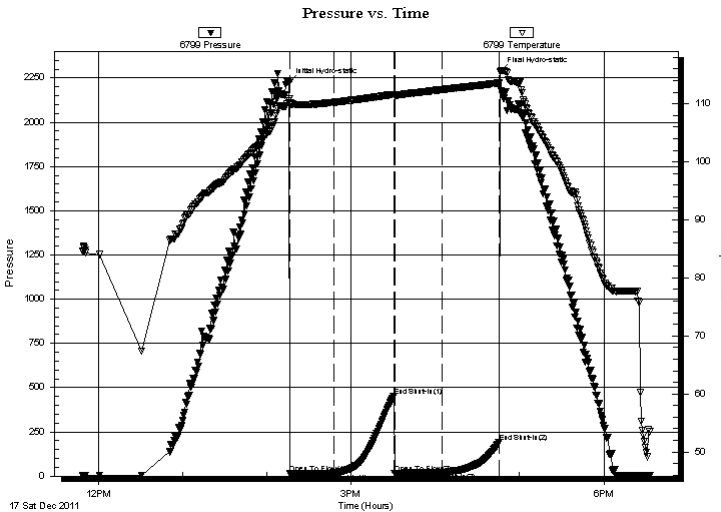
TEST COMMENT: IF- Surface blow built to 1/4"

IS- No Return

FF- No Blow

FS- No Return

PRESSURE SUMMARY



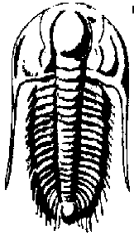
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2224.93	110.85	Initial Hydro-static
1	16.84	110.13	Open To Flow (1)
32	18.04	110.25	Shut-In(1)
75	452.49	111.64	End Shut-In(1)
75	17.45	111.52	Open To Flow (2)
109	19.15	112.44	Shut-In(2)
150	189.88	113.58	End Shut-In(2)
150	2287.84	115.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM 100M	0.02

Gas Rates

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



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8100 E 22nd St. N#700
Wichita, KS 67278
ATTN: Jeff Christian

13/13s/32w/Logan/KS
#1 Eaton 13CD
Job Ticket: 43749 **DST#: 4**
Test Start: 2011.12.17 @ 11:49:00

Mud and Cushion Information

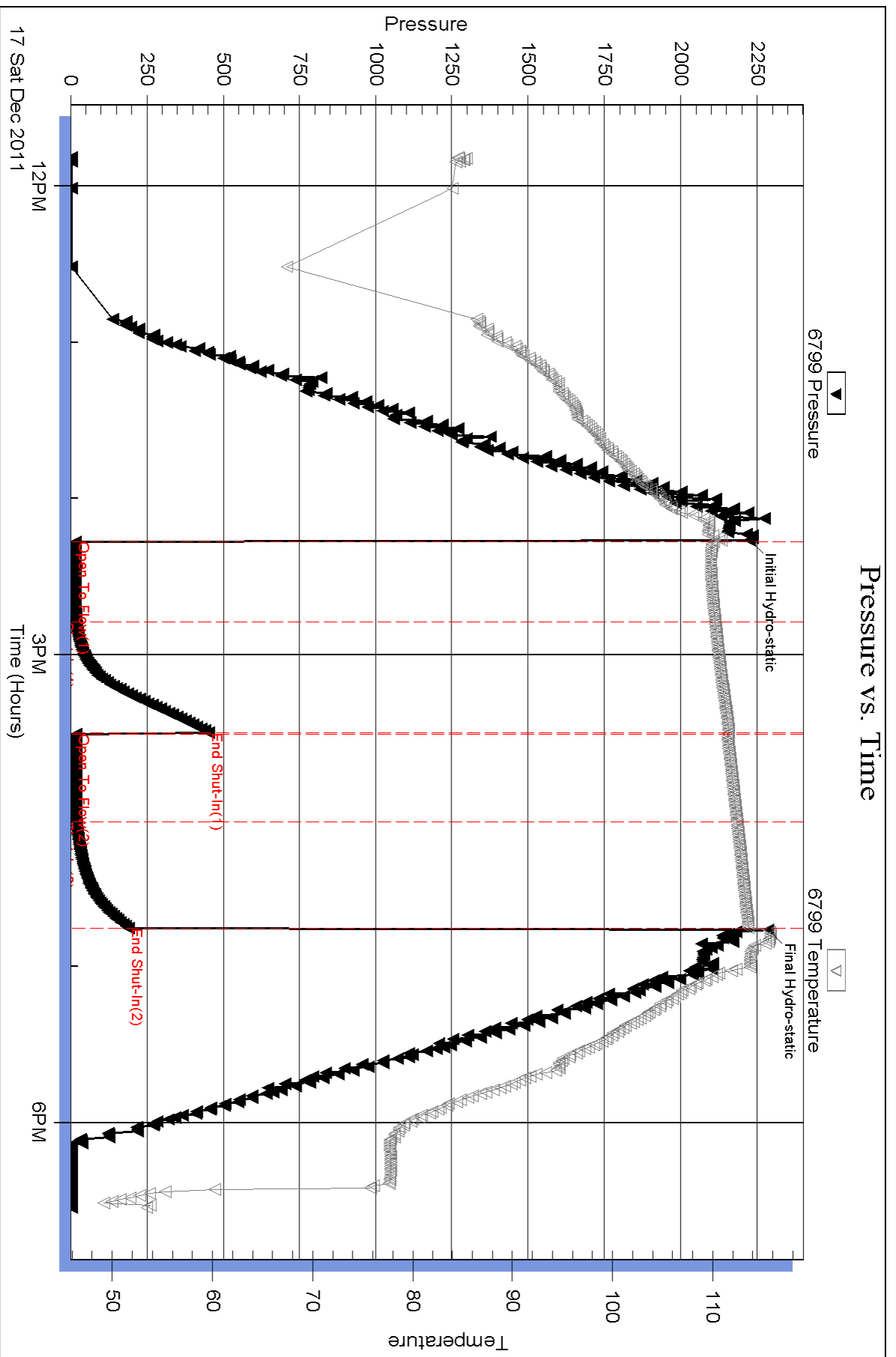
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 2500.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OSM 100M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



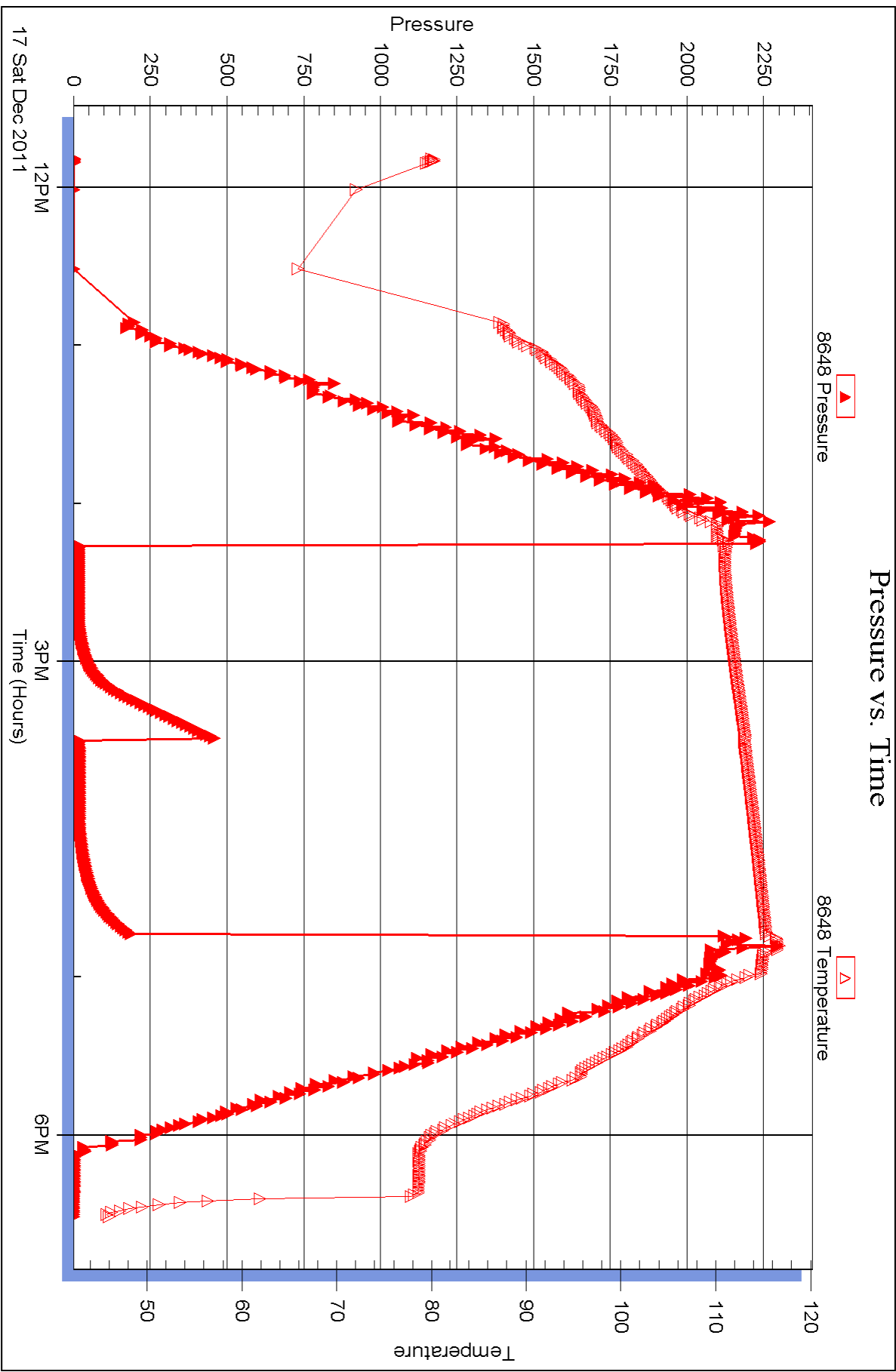
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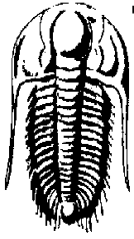
Inside

Ritchie Exploration Inc.

#1 Eaton 13CD

DST Test Number: 4





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DRILL STEM TEST REPORT

Ritchie Exploration Inc.
8100 E 22nd St. N#700
Wichita, KS 67278
ATTN: Jeff Christian

13/13s/32w/Logan/KS

#1 Eaton 13CD

Job Ticket: 43750

DST#: 5

Test Start: 2011.12.18 @ 05:42:00

GENERAL INFORMATION:

Formation: **Cherokee - Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:28:30

Time Test Ended: 12:49:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 43

Interval: 402.00 ft (KB) To 4568.00 ft (KB) (TVD)

Total Depth: 4568.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2959.00 ft (KB)

2949.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6799

Press @ RunDepth: 32.19 psig @ ft (KB)

Start Date: 2011.12.18

End Date: 2011.12.18

Start Time: 05:42:05

End Time: 12:49:29

Capacity: 8000.00 psig

Last Calib.: 2011.12.18

Time On Btm: 2011.12.18 @ 08:26:30

Time Off Btm: 2011.12.18 @ 11:02:00

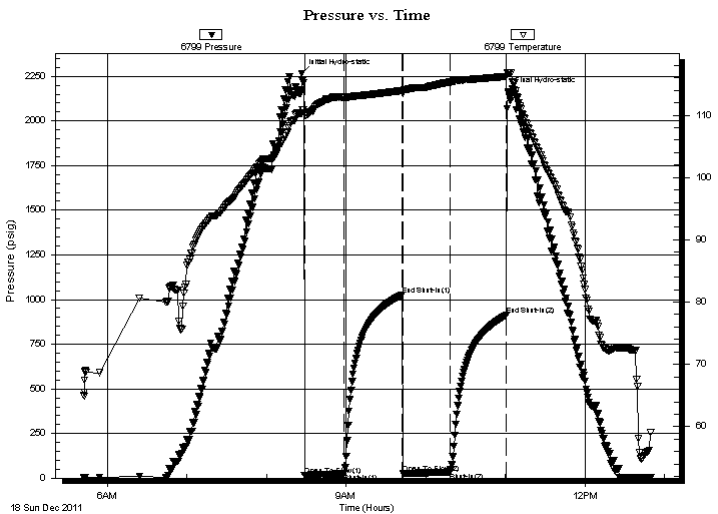
TEST COMMENT: IF- Surface blow built to 1"

IS- No Return

FF- No Blow

FS- No Return

PRESSURE SUMMARY



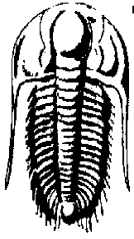
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2267.19	110.39	Initial Hydro-static
2	15.75	110.16	Open To Flow (1)
32	24.08	112.84	Shut-In(1)
76	1026.68	113.94	End Shut-In(1)
77	25.10	113.41	Open To Flow (2)
112	32.19	115.30	Shut-In(2)
155	913.21	116.22	End Shut-In(2)
156	2163.09	116.86	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100M	0.05

Gas Rates

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



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FLUID SUMMARY

Ritchie Exploration Inc.

13/13s/32w/Logan/KS

8100 E 22nd St. N#700
Wichita, KS 67278

#1 Eaton 13CD

Job Ticket: 43750

DST#: 5

ATTN: Jeff Christian

Test Start: 2011.12.18 @ 05:42:00

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud 100M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

