



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water Ste. #300
Wichita, KS 67202

ATTN: Saman Sharifaie

Geyer #4-35

35-10s-24w Graham,KS

Start Date: 2013.04.06 @ 04:52:30

End Date: 2013.04.06 @ 12:51:00

Job Ticket #: 52104 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.04.12 @ 11:14:22

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

Geyer #4-35

DST # 1

Toronto-LKC "A"

2013.04.06



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

35-10s-24w Graham, KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52104

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2013.04.06 @ 04:52:30

GENERAL INFORMATION:

Formation: **Toronto-LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:02:30

Time Test Ended: 12:51:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash/Daniel F

Unit No: 66

Interval: 3713.00 ft (KB) To 3764.00 ft (KB) (TVD)

Reference Elevations: 2400.00 ft (KB)

Total Depth: 3764.00 ft (KB) (TVD)

2389.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8520 Outside

Press @ Run Depth: 148.43 psig @ 3751.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.06

End Date: 2013.04.06

Last Calib.: 2013.04.06

Start Time: 05:02:30

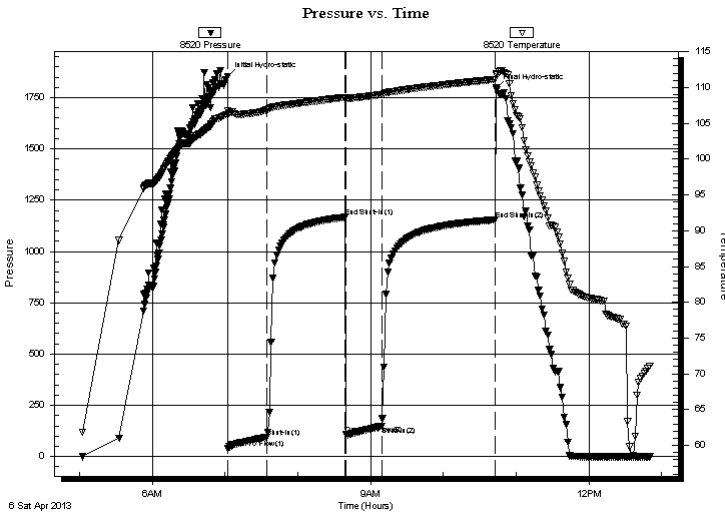
End Time: 12:51:00

Time On Btm: 2013.04.06 @ 07:02:00

Time Off Btm: 2013.04.06 @ 10:43:30

TEST COMMENT: IF-Fair building blow . BOB @ 12 minutes 30 seconds.
ISI-Return @ 2 minutes. Built to 7 inches.
FF-Fair building blow . BOB @ 12 minutes.
FSI-Return @ 30 seconds. BOB 1 hour 5 minutes.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1851.89	106.69	Initial Hydro-static
1	39.50	106.20	Open To Flow (1)
32	95.52	106.86	Shut-In(1)
97	1167.02	108.64	End Shut-In(1)
98	106.60	108.44	Open To Flow (2)
127	148.43	109.03	Shut-In(2)
221	1154.15	111.16	End Shut-In(2)
222	1795.85	111.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	20%Gas/40%Oil/40%Mud	0.60
242.00	20%Gas/80%Oil	3.39
0.00	640' G.I.P.	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52104

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2013.04.06 @ 04:52:30

Tool Information

Drill Pipe:	Length: 3675.00 ft	Diameter: 3.80 inches	Volume: 51.55 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 51.70 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 59000.00 lb
Depth to Top Packer:	3713.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	51.00 ft			
Tool Length:	79.00 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			3686.00	
Shut In Tool	5.00			3691.00	
Hydraulic tool	5.00			3696.00	
Jars	5.00			3701.00	
Safety Joint	3.00			3704.00	
Packer	5.00			3709.00	28.00 Bottom Of Top Packer
Packer	4.00			3713.00	
Stubb	1.00			3714.00	
Perforations	4.00			3718.00	
Change Over Sub	1.00			3719.00	
Drill Pipe	31.00			3750.00	
Change Over Sub	1.00			3751.00	
Recorder	0.00	8354	Inside	3751.00	
Recorder	0.00	8520	Outside	3751.00	
Perforations	10.00			3761.00	
Bullnose	3.00			3764.00	51.00 Bottom Packers & Anchor
Total Tool Length:	79.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52104

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2013.04.06 @ 04:52:30

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

18 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	20%Gas/40%Oil/40%Mud	0.596
242.00	20%Gas/80%Oil/	3.395
0.00	640' G.I.P.	0.000

Total Length: 304.00 ft

Total Volume: 3.991 bbl

Num Fluid Samples: 0

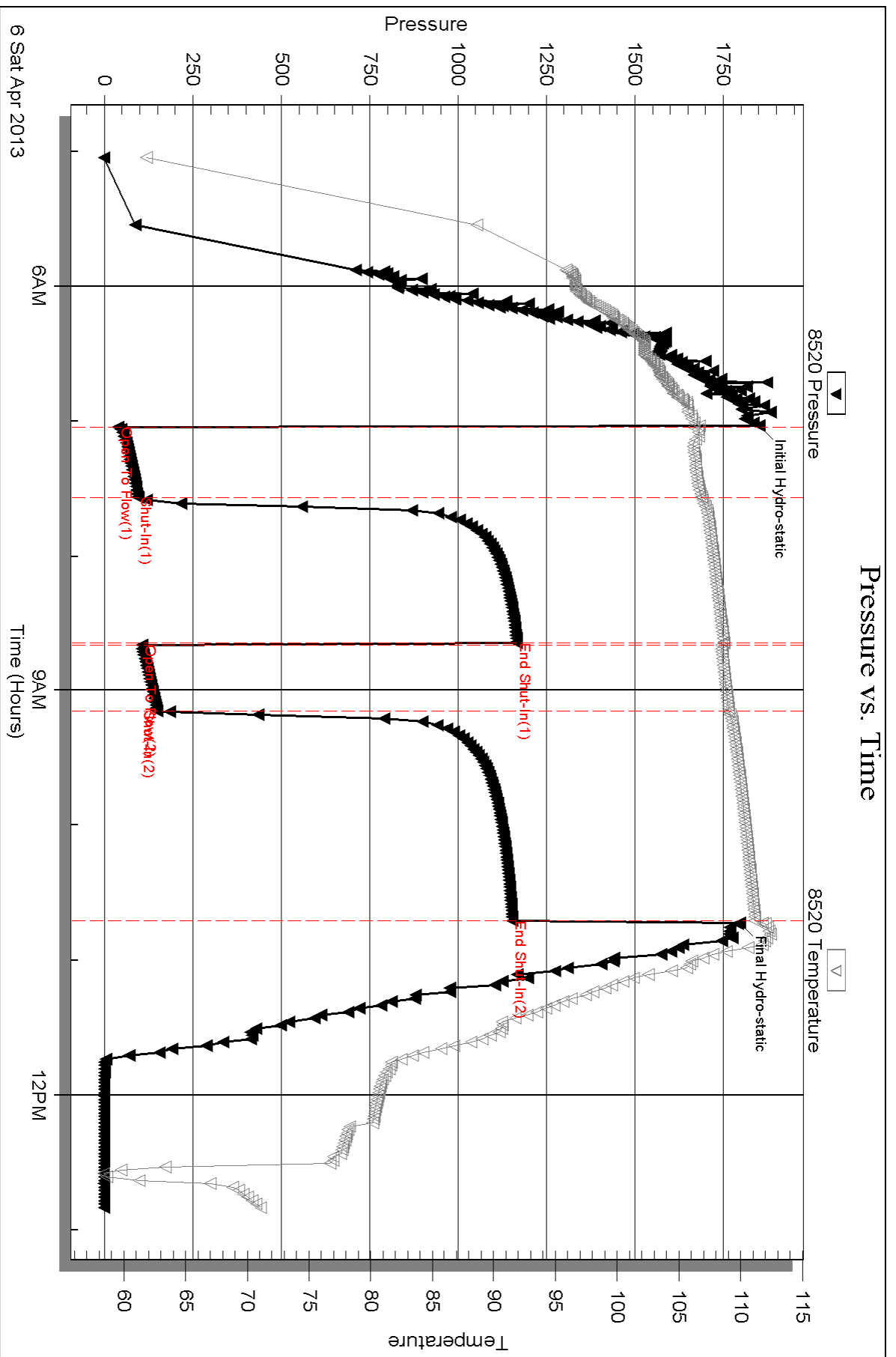
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



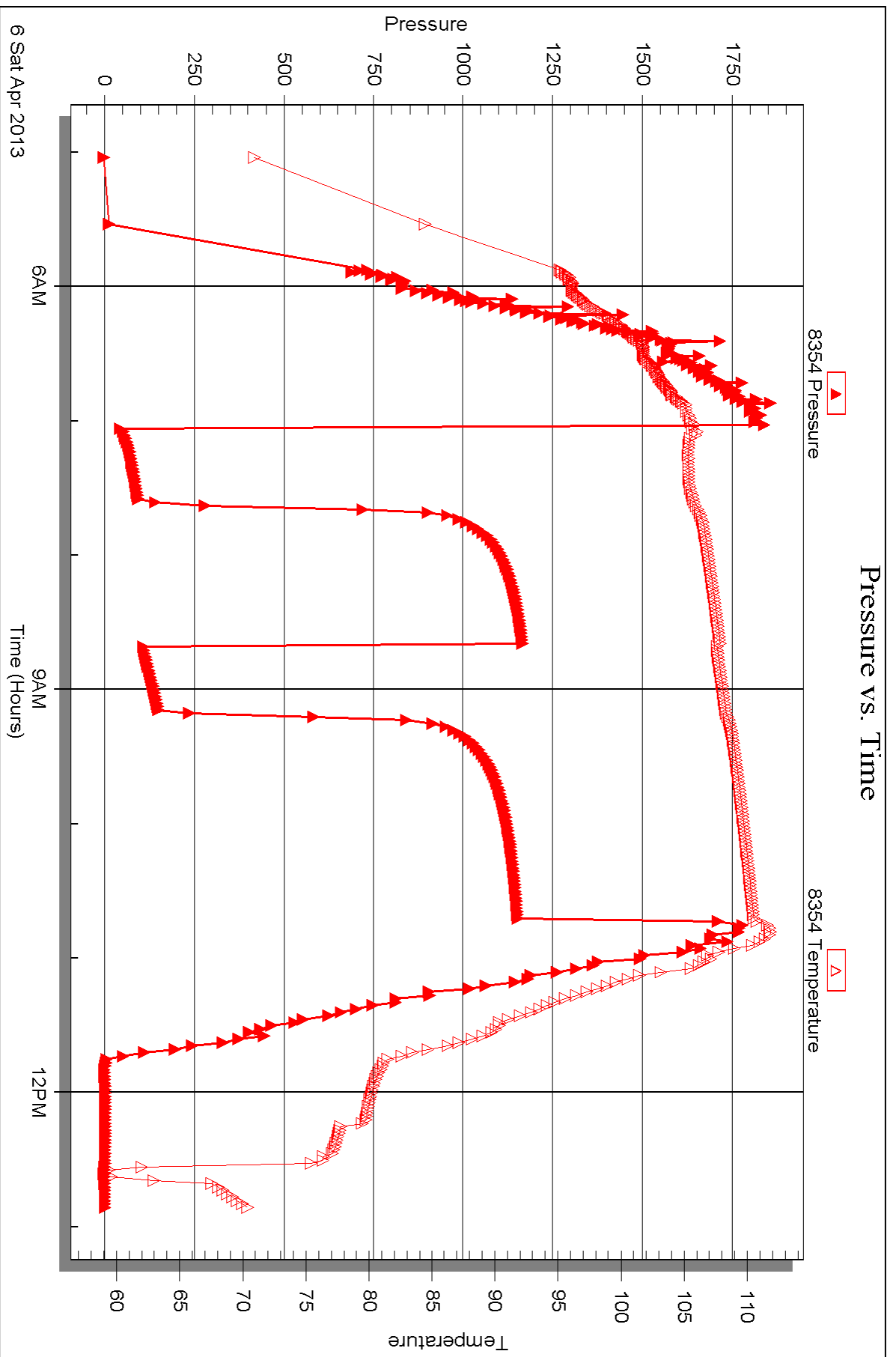
Serial #: 8354

Inside

Murfin Drilling Co., Inc.

Geyer #4-35

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water Ste. #300
Wichita, KS 67202

ATTN: Saman Sharifaie

Geyer #4-35

35-10s-24w Graham,KS

Start Date: 2013.04.06 @ 21:25:45

End Date: 2013.04.07 @ 04:27:15

Job Ticket #: 52105 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.04.12 @ 11:13:27



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

35-10s-24w Graham, KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52105

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2013.04.06 @ 21:25:45

GENERAL INFORMATION:

Formation: **LKC "B-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:56:05

Time Test Ended: 04:27:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Daniel Fertig/Dustin

Unit No: 66

Interval: 3765.00 ft (KB) To 3809.00 ft (KB) (TVD)

Reference Elevations: 2400.00 ft (KB)

Total Depth: 3809.00 ft (KB) (TVD)

2389.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8520 Outside

Press @ Run Depth: 67.60 psig @ 3801.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.06

End Date:

2013.04.07

Last Calib.:

2013.04.07

Start Time:

21:25:45

End Time:

04:27:15

Time On Btm:

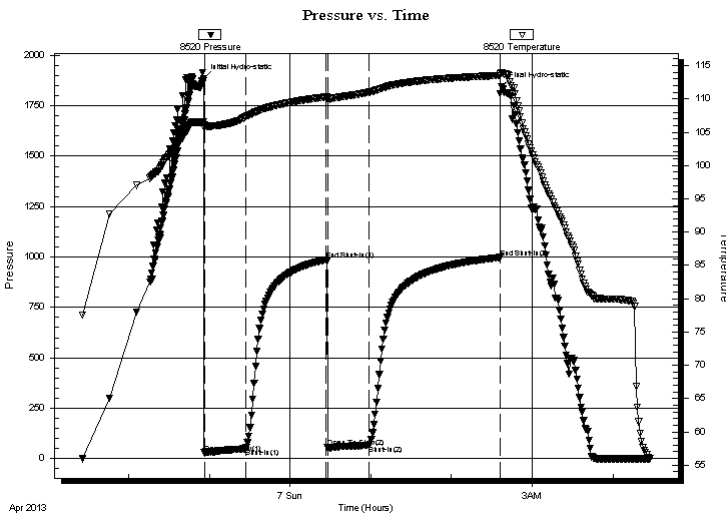
2013.04.06 @ 22:55:55

Time Off Btm:

2013.04.07 @ 02:37:15

TEST COMMENT: IF- Fair building blow . BOB @ 14 minutes.
IS- No return.
FF- Fair building blow . BOB @ 12 minutes.
FS- Returned 30 seconds. Died @ 19 minutes.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1884.94	106.55	Initial Hydro-static
1	28.77	105.88	Open To Flow (1)
31	49.35	107.29	Shut-In(1)
91	987.04	110.29	End Shut-In(1)
92	55.24	110.00	Open To Flow (2)
123	67.60	111.00	Shut-In(2)
220	997.55	113.53	End Shut-In(2)
222	1844.80	113.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	30% gas / 30% oil / 40% mud	1.47
10.00	25% gas / 50% oil / 25% mud	0.14
0.00	555' G.I.P.	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52105

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2013.04.06 @ 21:25:45

Tool Information

Drill Pipe:	Length: 3737.00 ft	Diameter: 3.80 inches	Volume: 52.42 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	25000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
			- bbl	String Weight: Initial	60000.00 lb
Drill Pipe Above KB:	30.00 ft			Final	60000.00 lb
Depth to Top Packer:	3765.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	44.00 ft				
Tool Length:	72.00 ft				
Number of Packers:	1	Diameter:	6.75 inches		
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3738.00	
Shut In Tool	5.00			3743.00	
Hydraulic tool	5.00			3748.00	
Jars	5.00			3753.00	
Safety Joint	3.00			3756.00	
Packer	5.00			3761.00	28.00 Bottom Of Top Packer
Packer	4.00			3765.00	
Stubb	1.00			3766.00	
Perforations	2.00			3768.00	
Change Over Sub	1.00			3769.00	
Drill Pipe	31.00			3800.00	
Change Over Sub	1.00			3801.00	
Recorder	0.00	8354	Inside	3801.00	
Recorder	0.00	8520	Outside	3801.00	
Perforations	5.00			3806.00	
Bullnose	3.00			3809.00	44.00 Bottom Packers & Anchor
Total Tool Length:	72.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52105

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2013.04.06 @ 21:25:45

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	30% gas / 30% oil / 40% mud	1.466
10.00	25% gas / 50% oil / 25% mud	0.140
0.00	555' G.I.P.	0.000

Total Length: 134.00 ft

Total Volume: 1.606 bbl

Num Fluid Samples: 0

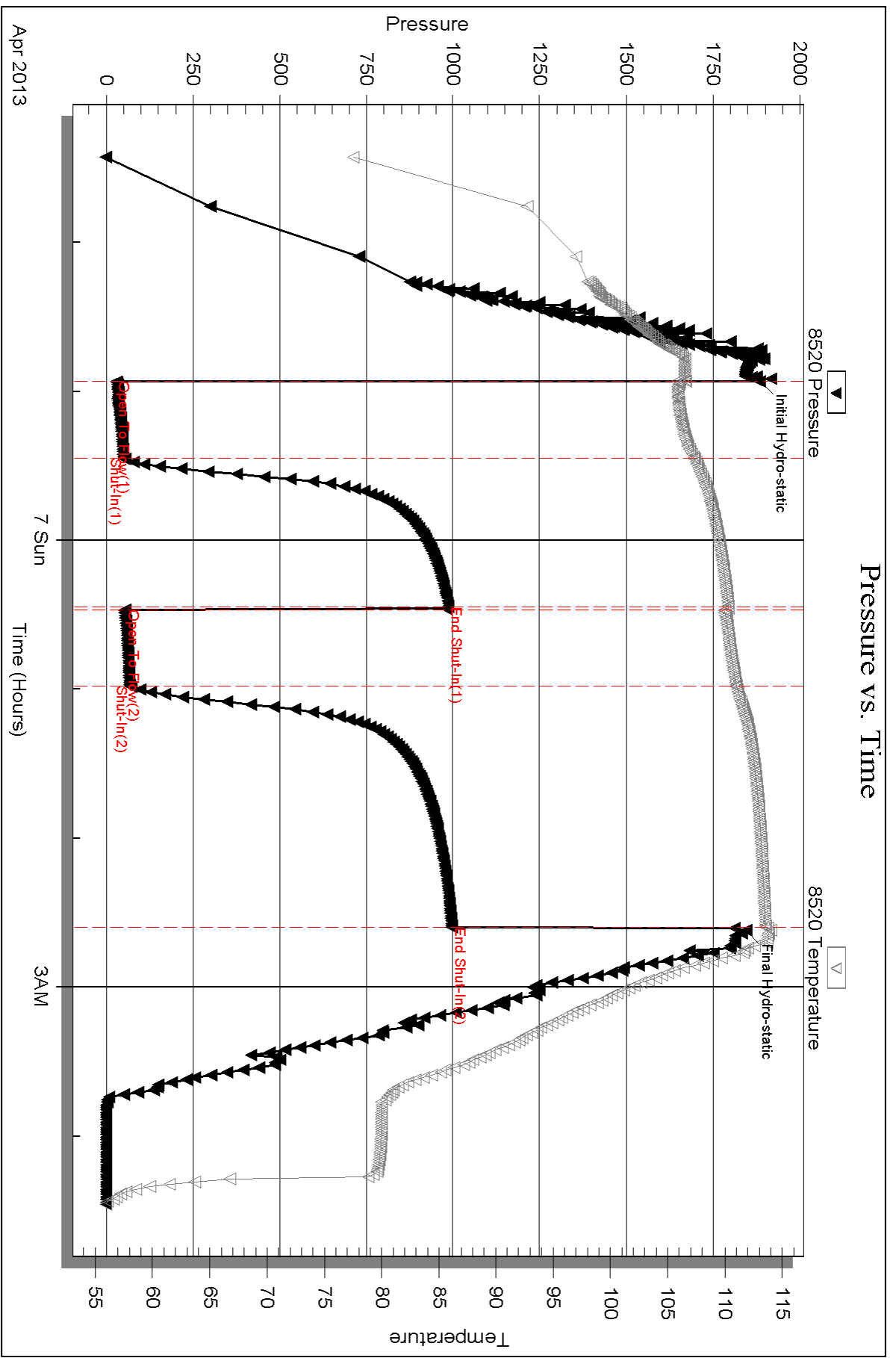
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



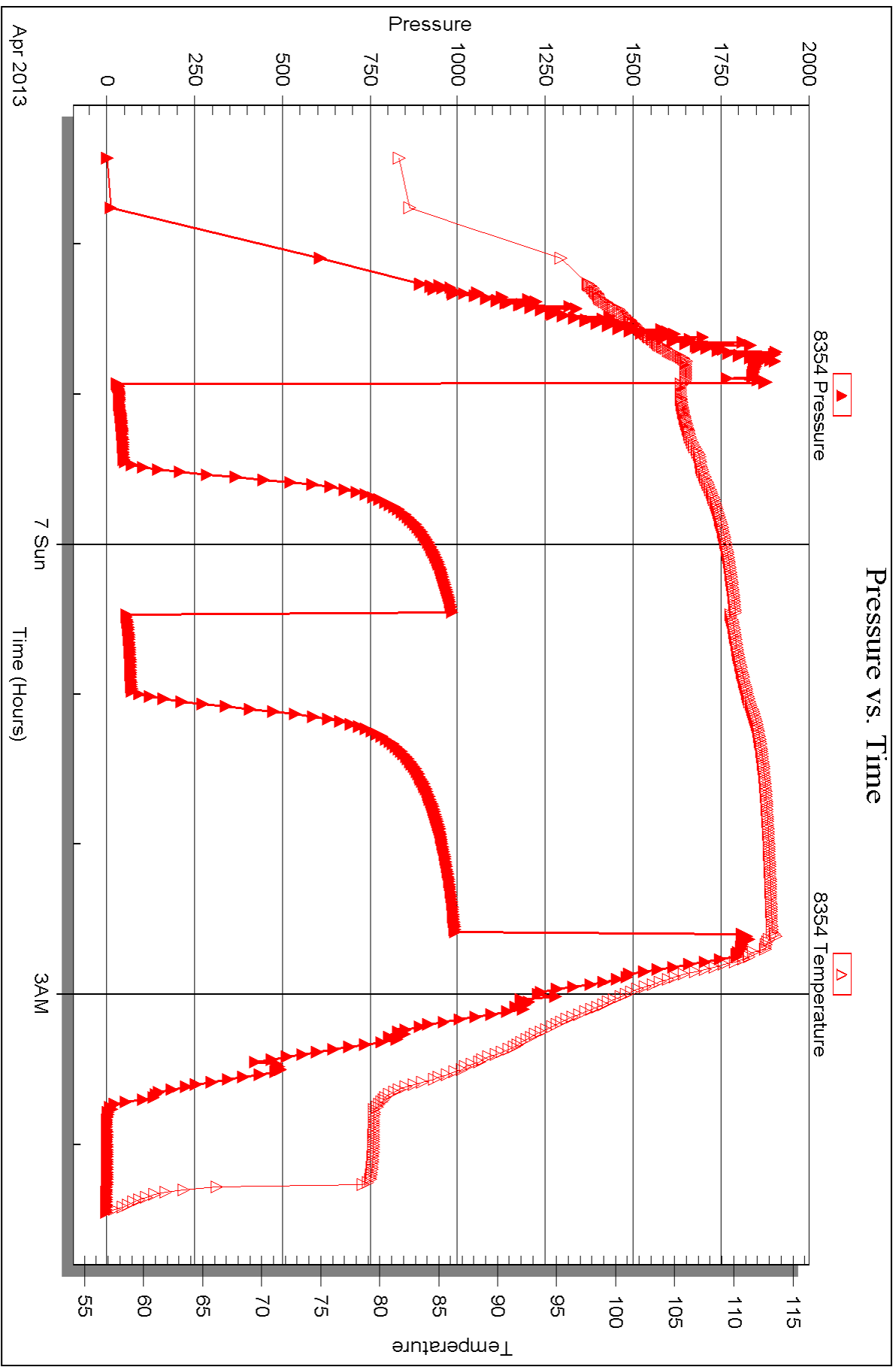
Serial #: 8354

Inside

Murfin Drilling Co., Inc.

Geyer #4-35

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 52105

Printed: 2013.04.12 @ 11:13:31



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water Ste. #300
Wichita, KS 67202

ATTN: Saman Sharifaie

Geyer #4-35

35-10s-24w Graham,KS

Start Date: 2013.04.07 @ 10:48:30

End Date: 2013.04.07 @ 17:59:00

Job Ticket #: 52106 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.04.12 @ 11:12:44



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52106

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2013.04.07 @ 10:48:30

GENERAL INFORMATION:

Formation: **LKC "E-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:10:30

Time Test Ended: 17:59:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Daniel Fertig/Dustin

Unit No: 66

Interval: 3806.00 ft (KB) To 3828.00 ft (KB) (TVD)

Reference Elevations: 2400.00 ft (KB)

Total Depth: 3828.00 ft (KB) (TVD)

2389.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8520 Outside

Press @ Run Depth: 111.16 psig @ 3808.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.07 End Date: 2013.04.07

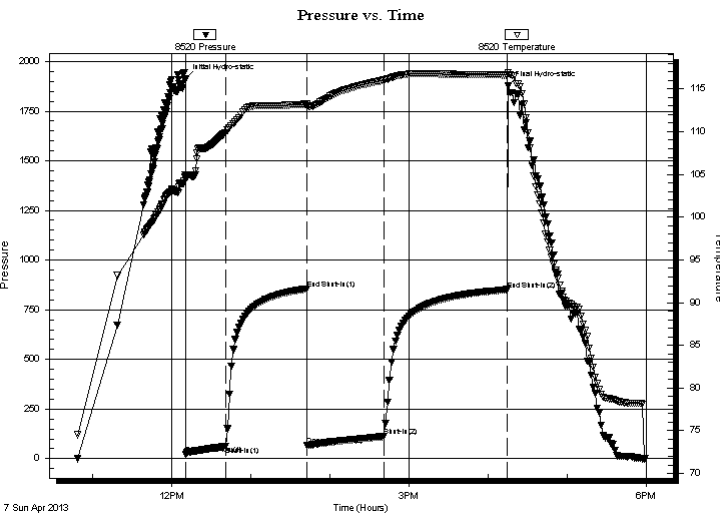
Last Calib.: 2013.04.07

Start Time: 10:48:30 End Time: 17:59:00

Time On Btm: 2013.04.07 @ 12:10:10

Time Off Btm: 2013.04.07 @ 16:15:00

TEST COMMENT: IF- Weak building bbw . built to 7 inches.
IS- No return.
FF- Weak building blow . BOB @ 51 minutes.
FS- Weak surface return @ 2 minutes. Died @ 26 minutes.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1912.14	104.90	Initial Hydro-static
1	22.54	104.38	Open To Flow (1)
31	61.78	109.89	Shut-In(1)
92	854.89	113.21	End Shut-In(1)
93	65.74	112.98	Open To Flow (2)
151	111.16	116.03	Shut-In(2)
244	850.97	116.63	End Shut-In(2)
245	1877.15	116.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	70% water / 30% mud	1.48
68.00	80% water / 20% mud	0.95
5.00	100% oil	0.07
0.00	50' G.I.P.	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52106

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2013.04.07 @ 10:48:30

Tool Information

Drill Pipe:	Length: 3768.00 ft	Diameter: 3.80 inches	Volume: 52.86 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 25000.00 lb
			<u>Total Volume: 53.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3806.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	50.00 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			3779.00	
Shut In Tool	5.00			3784.00	
Hydraulic tool	5.00			3789.00	
Jars	5.00			3794.00	
Safety Joint	3.00			3797.00	
Packer	5.00			3802.00	28.00 Bottom Of Top Packer
Packer	4.00			3806.00	
Stubb	1.00			3807.00	
Perforations	1.00			3808.00	
Recorder	0.00	8354	Inside	3808.00	
Recorder	0.00	8520	Outside	3808.00	
Perforations	17.00			3825.00	
Bullnose	3.00			3828.00	22.00 Bottom Packers & Anchor

Total Tool Length: 50.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52106

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2013.04.07 @ 10:48:30

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:

6500 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: 0.83 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
125.00	70% water / 30% mud	1.480
68.00	80% water / 20% mud	0.954
5.00	100% oil	0.070
0.00	50' G.I.P.	0.000

Total Length: 198.00 ft

Total Volume: 2.504 bbl

Num Fluid Samples: 0

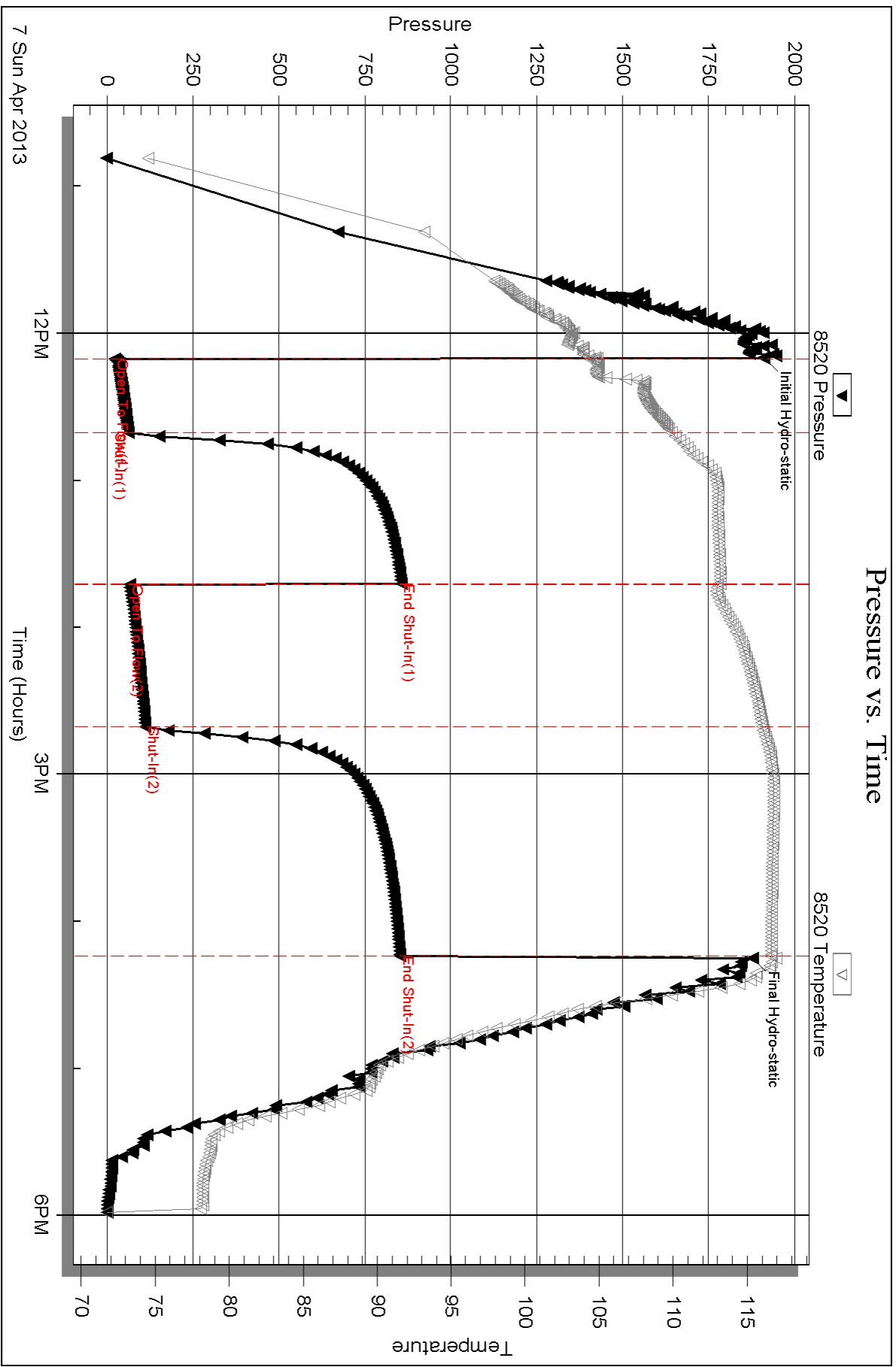
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



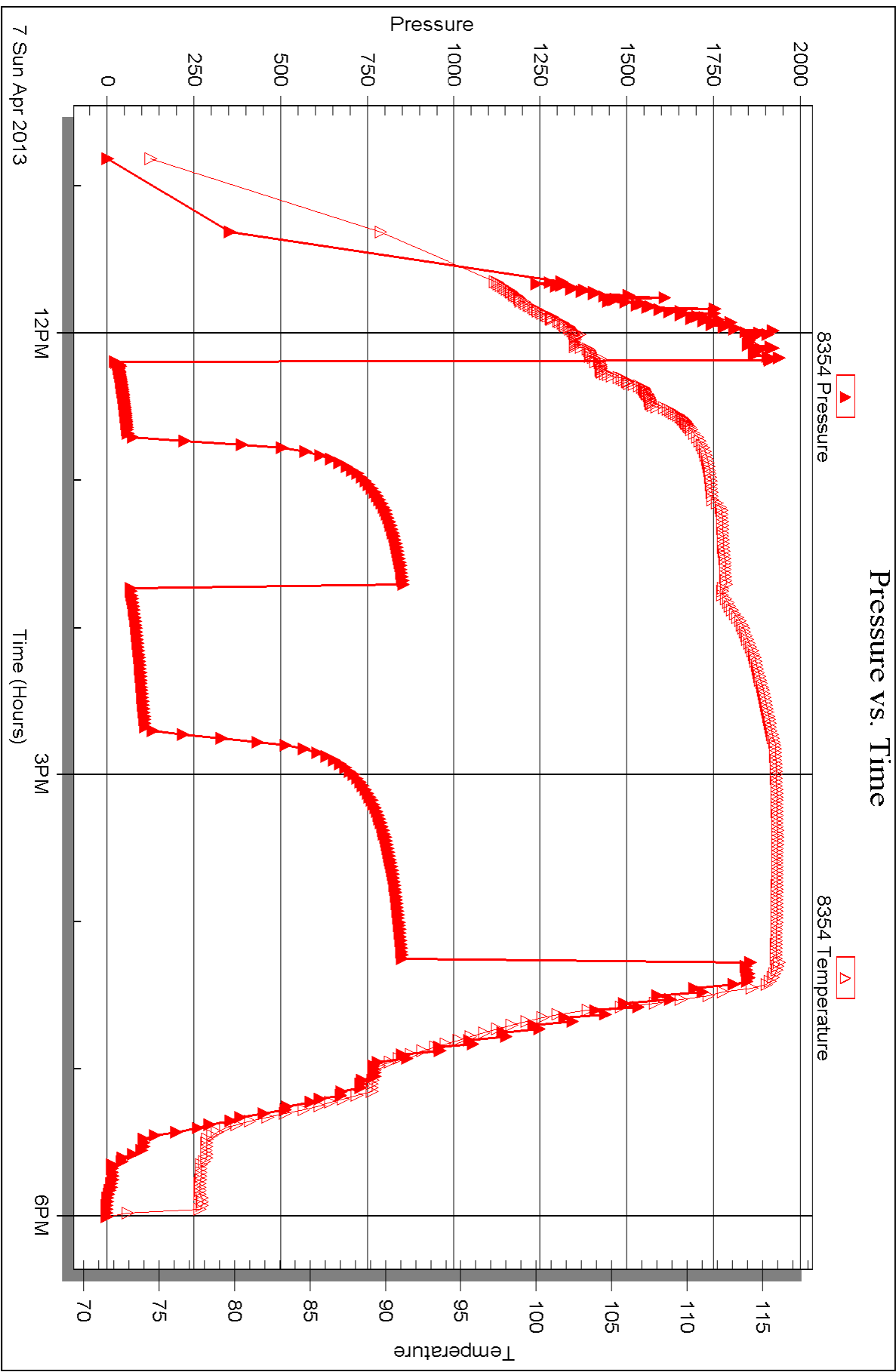
Serial #: 8354

Inside

Murfin Drilling Co., Inc.

Geyer #4-35

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water Ste. #300
Wichita, KS 67202

ATTN: Saman Sharifaie

Geyer #4-35

35-10s-24w Graham,KS

Start Date: 2013.04.08 @ 06:52:15

End Date: 2013.04.08 @ 13:38:45

Job Ticket #: 52107 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.04.12 @ 11:12:07



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52107

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2013.04.08 @ 06:52:15

GENERAL INFORMATION:

Formation: **LKC "H-I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:16:15

Time Test Ended: 13:38:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Daniel Fertig/Dustin

Unit No: 66

Interval: 3863.00 ft (KB) To 3920.00 ft (KB) (TVD)

Reference Elevations: 2400.00 ft (KB)

Total Depth: 3920.00 ft (KB) (TVD)

2389.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8520 Outside

Press @ Run Depth: 96.44 psig @ 3902.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.08

End Date:

2013.04.08

Last Calib.:

2013.04.08

Start Time:

06:52:15

End Time:

13:38:45

Time On Btm:

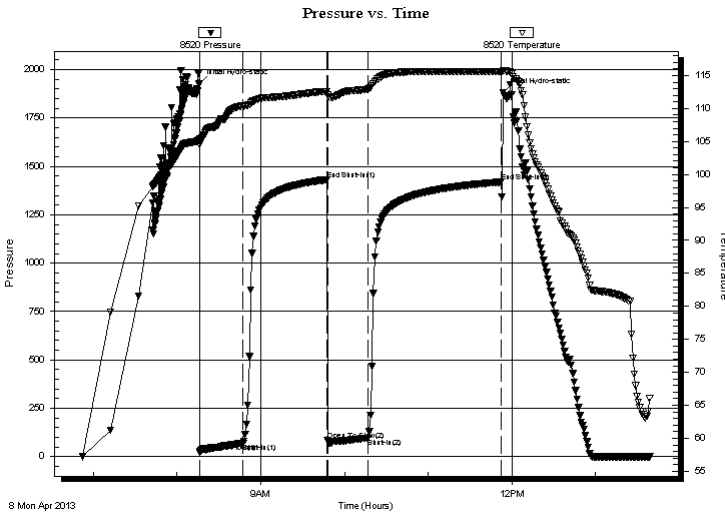
2013.04.08 @ 08:16:05

Time Off Btm:

2013.04.08 @ 11:53:45

TEST COMMENT: IF- Strong building blow . BOB @ 9 minutes.
IS- No return
FF- Strong building blow . BOB @ 5 minutes.
FS- Return @ 30 seconds built to 10 inches.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1928.09	105.36	Initial Hydro-static
1	23.66	104.55	Open To Flow (1)
32	69.22	110.41	Shut-In(1)
92	1431.92	112.60	End Shut-In(1)
92	83.26	111.99	Open To Flow (2)
121	96.44	112.92	Shut-In(2)
217	1419.74	115.56	End Shut-In(2)
218	1882.67	115.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	20% gas / 20% oil / 60% mud	0.60
83.00	20% gas / 40% oil / 40% mud	1.16
60.00	10% gas / 90% oil	0.84
0.00	1048' G.I.P	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52107

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2013.04.08 @ 06:52:15

Tool Information

Drill Pipe:	Length: 3829.00 ft	Diameter: 3.80 inches	Volume: 53.71 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	25000.00 lb
			<u>Total Volume: 53.86 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	3863.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	57.00 ft				
Tool Length:	85.00 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			3836.00	
Shut In Tool	5.00			3841.00	
Hydraulic tool	5.00			3846.00	
Jars	5.00			3851.00	
Safety Joint	3.00			3854.00	
Packer	5.00			3859.00	28.00 Bottom Of Top Packer
Packer	4.00			3863.00	
Stubb	1.00			3864.00	
Perforations	5.00			3869.00	
Change Over Sub	1.00			3870.00	
Drill Pipe	31.00			3901.00	
Change Over Sub	1.00			3902.00	
Recorder	0.00	8354	Inside	3902.00	
Recorder	0.00	8520	Outside	3902.00	
Perforations	15.00			3917.00	
Bullnose	3.00			3920.00	57.00 Bottom Packers & Anchor
Total Tool Length:	85.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52107

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2013.04.08 @ 06:52:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

41 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	20% gas / 20% oil / 60% mud	0.596
83.00	20% gas / 40% oil / 40% mud	1.164
60.00	10% gas / 90% oil	0.842
0.00	1048' G.I.P	0.000

Total Length: 205.00 ft

Total Volume: 2.602 bbl

Num Fluid Samples: 0

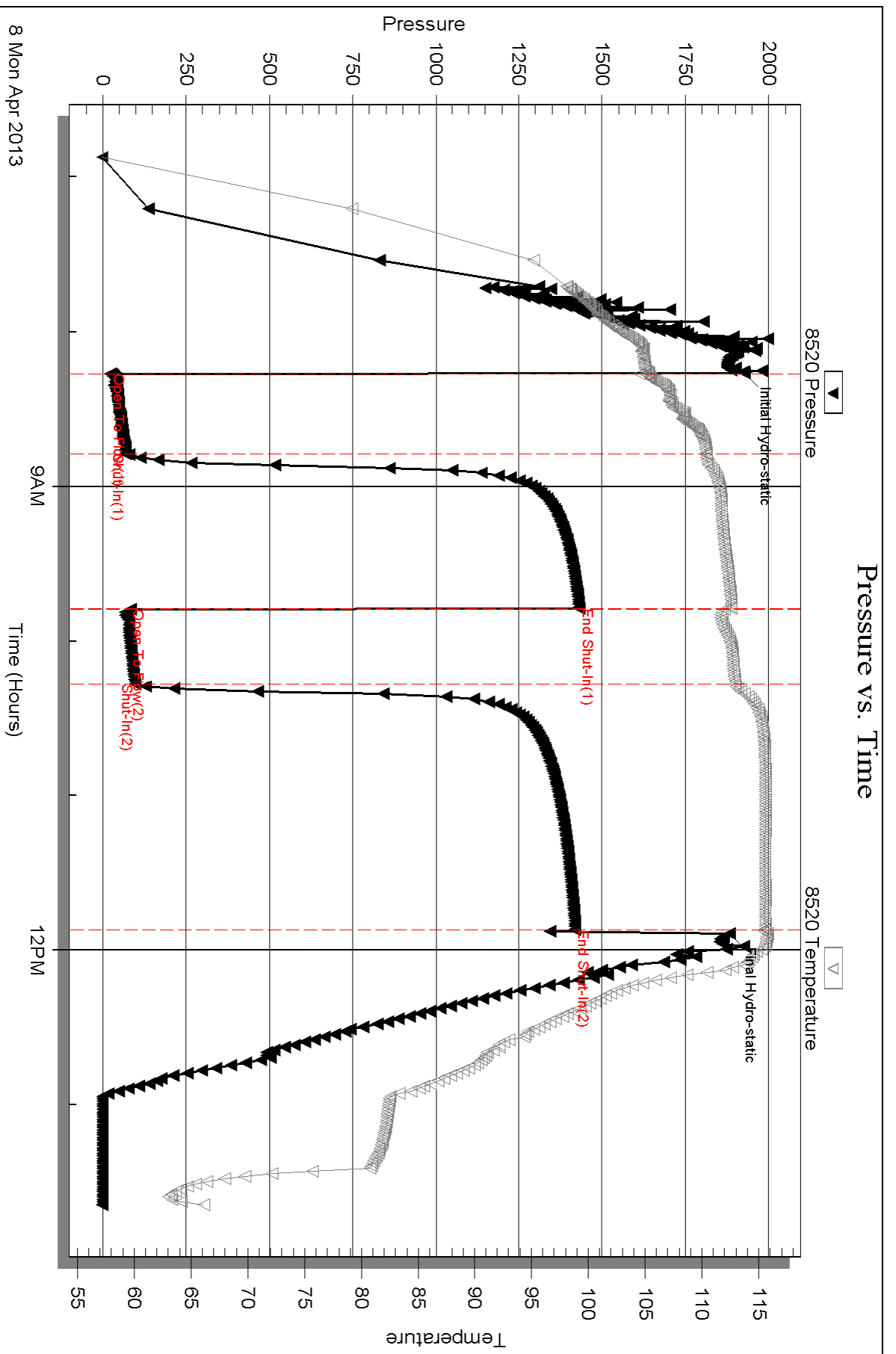
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



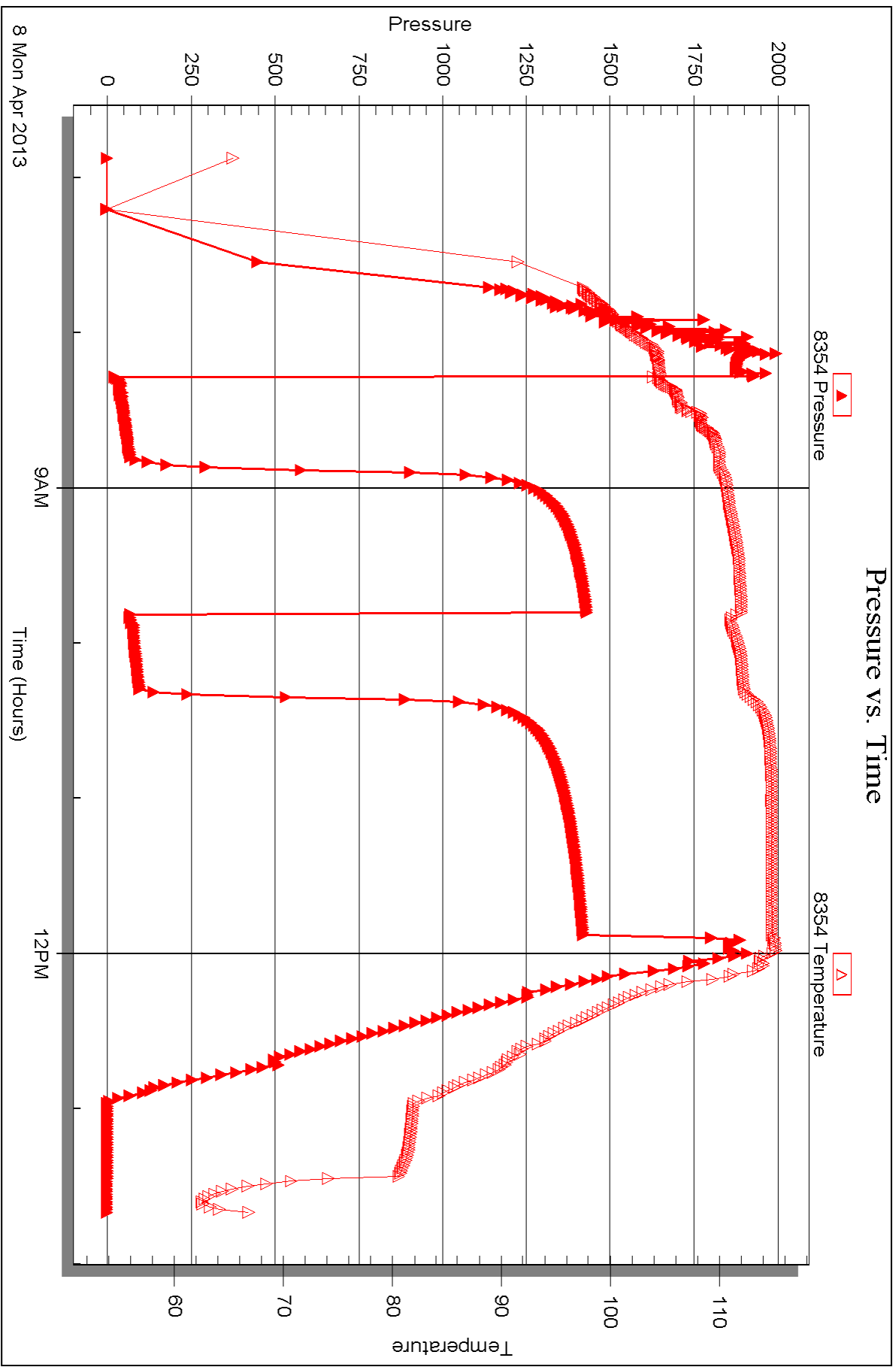
Serial #: 8354

Inside

Murfin Drilling Co., Inc.

Geyer #4-35

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 52107

Printed: 2013.04.12 @ 11:12:10



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water Ste. #300
Wichita, KS 67202

ATTN: Saman Sharifaie

Geyer #4-35

35-10s-24w Graham,KS

Start Date: 2013.04.08 @ 19:32:30

End Date: 2013.04.09 @ 03:32:00

Job Ticket #: 52108 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.04.12 @ 11:11:23



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52108

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2013.04.08 @ 19:32:30

GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:39:30

Time Test Ended: 03:32:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Daniel Fertig/Dustin

Unit No: 66

Interval: 3910.00 ft (KB) To 3934.00 ft (KB) (TVD)

Reference Elevations: 2400.00 ft (KB)

Total Depth: 3934.00 ft (KB) (TVD)

2389.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8520 Outside

Press @ Run Depth: 65.16 psig @ 3912.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.08

End Date:

2013.04.09

Last Calib.:

2013.04.09

Start Time: 19:32:30

End Time:

03:32:00

Time On Btm:

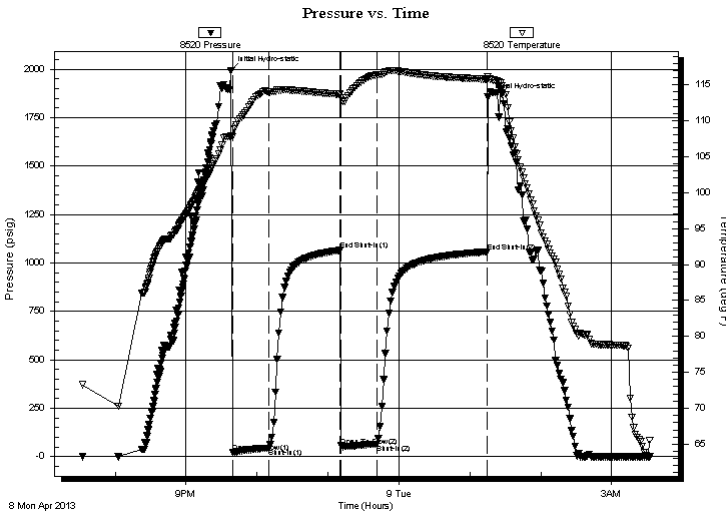
2013.04.08 @ 21:38:00

Time Off Btm:

2013.04.09 @ 01:15:00

TEST COMMENT: IF- Strong building blow . BOB @ 10 mintues.
IS- No return.
FF- Strong building blow . BOB @ 10 mintues
FS- Surface return @ 2 minutes. Died @ 27 minutes.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1993.82	107.94	Initial Hydro-static
2	21.69	107.75	Open To Flow (1)
32	44.09	114.00	Shut-In(1)
92	1065.12	113.69	End Shut-In(1)
93	54.92	113.23	Open To Flow (2)
123	65.16	116.42	Shut-In(2)
217	1057.59	115.79	End Shut-In(2)
217	1855.80	116.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
25.00	30% gas / 10% oil / 30% water / 30% mud	0.12
55.00	10% gas / 30% oil / 60% mud	0.73
50.00	10% gas / 90% oil	0.70
0.00	806 G.I.P.	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52108

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2013.04.08 @ 19:32:30

Tool Information

Drill Pipe:	Length: 3862.00 ft	Diameter: 3.80 inches	Volume: 54.17 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 54.32 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3910.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	52.00 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			3883.00	
Shut In Tool	5.00			3888.00	
Hydraulic tool	5.00			3893.00	
Jars	5.00			3898.00	
Safety Joint	3.00			3901.00	
Packer	5.00			3906.00	28.00 Bottom Of Top Packer
Packer	4.00			3910.00	
Stubb	1.00			3911.00	
Perforations	1.00			3912.00	
Recorder	0.00	8354	Inside	3912.00	
Recorder	0.00	8520	Outside	3912.00	
Perforations	19.00			3931.00	
Bullnose	3.00			3934.00	24.00 Bottom Packers & Anchor

Total Tool Length: 52.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

35-10s-24w Graham,KS

250 N. Water Ste. #300
Wichita, KS 67202

Geyer #4-35

Job Ticket: 52108

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2013.04.08 @ 19:32:30

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

41 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
25.00	30% gas / 10% oil / 30% water / 30% mud	0.123
55.00	10% gas / 30% oil / 60% mud	0.726
50.00	10% gas / 90% oil	0.701
0.00	806 G.I.P.	0.000

Total Length: 130.00 ft

Total Volume: 1.550 bbl

Num Fluid Samples: 0

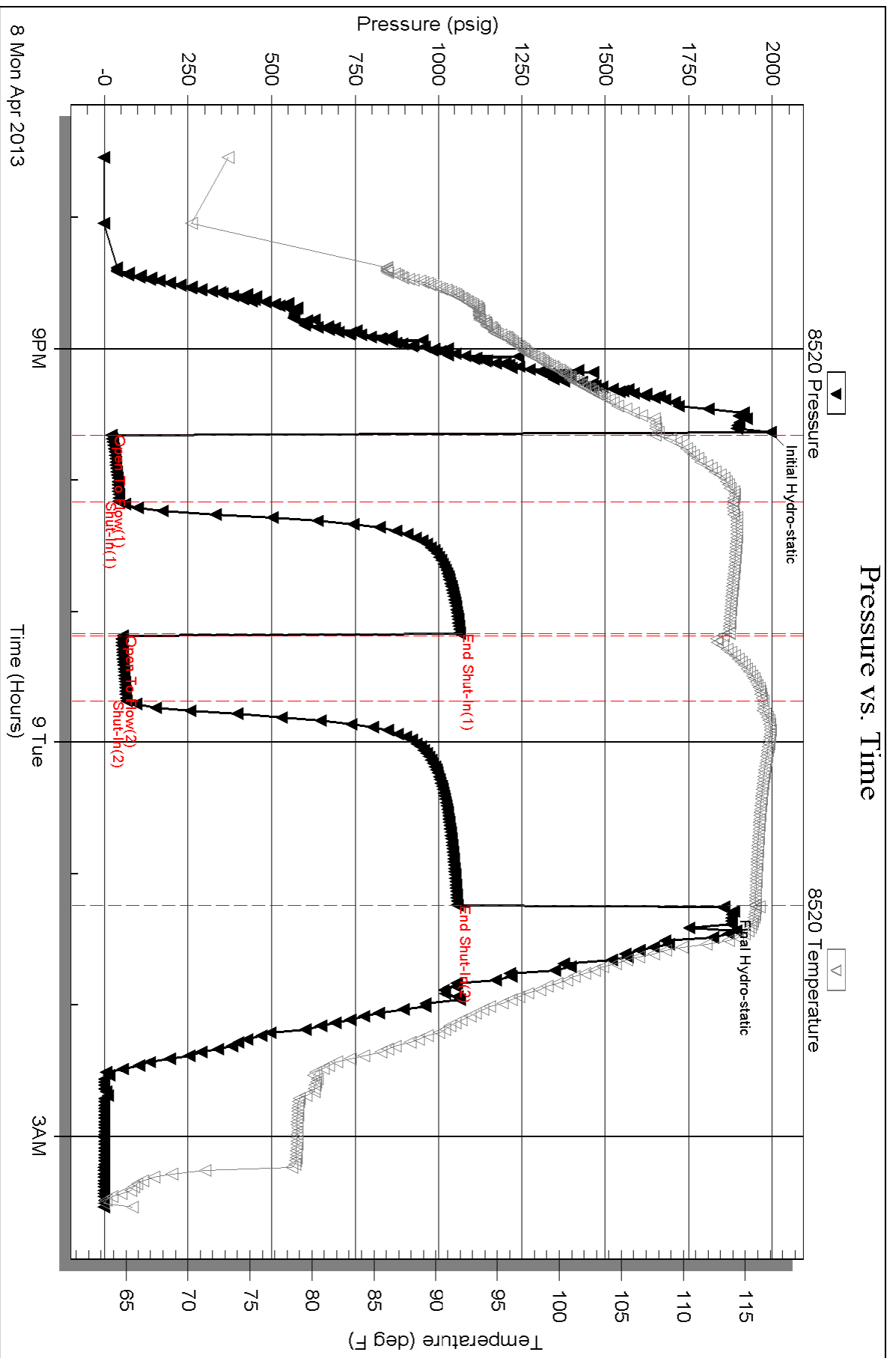
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



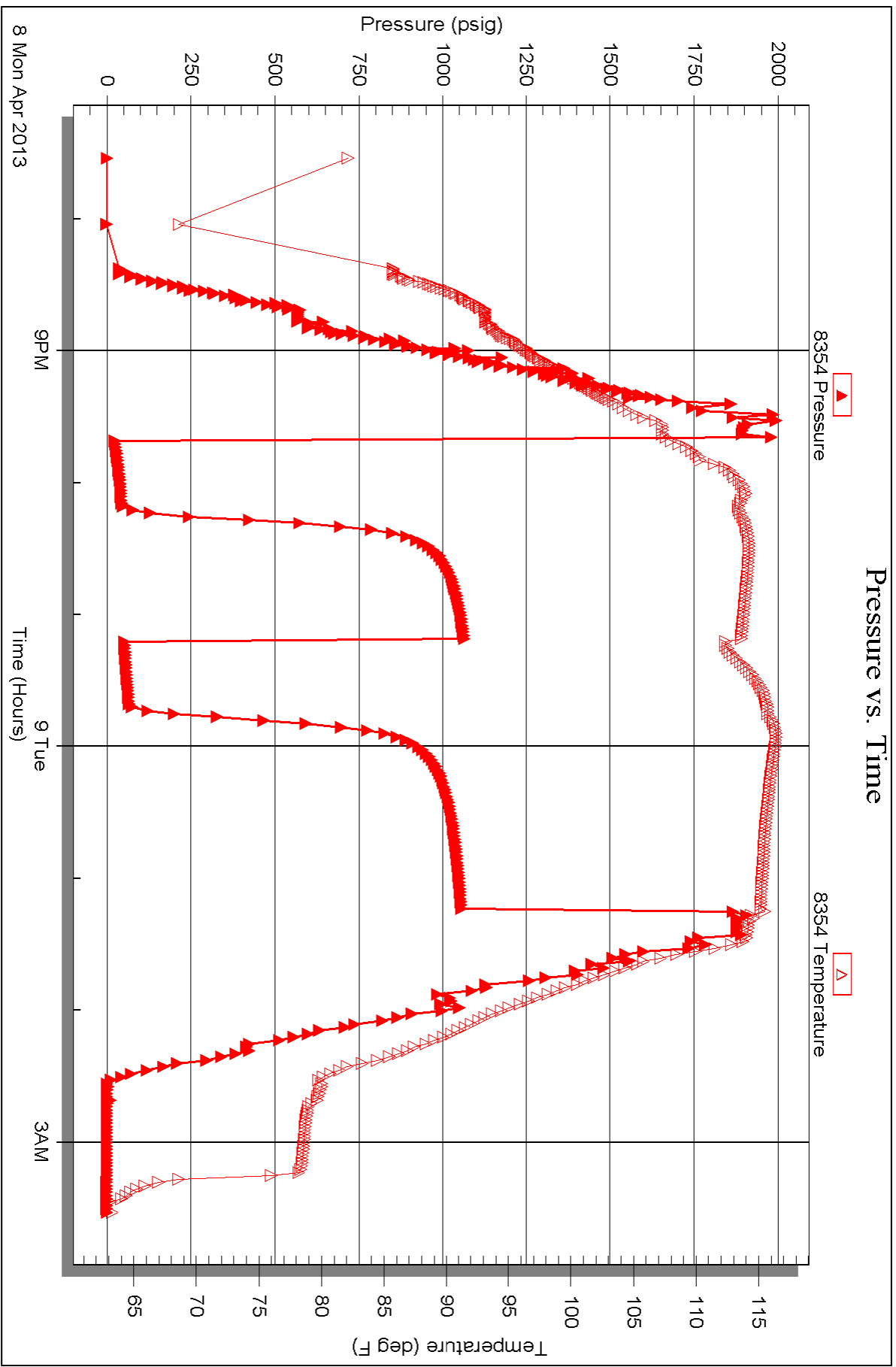
Serial #: 8354

Inside

Murfin Drilling Co., Inc.

Geyer #4-35

DST Test Number: 5





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52104

Well Name & No. Geyer #4-35 Test No. 1 Date 4-6-13
 Company Mulnix Drilling Co., Inc. Elevation 2400 KB 2389 GL
 Address 250 N. Water St., #300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifare Rig Mulnix 21
 Location: Sec. 35 Twp. 10S Rge. 24W Co. Graham State KS

Interval Tested 3713-3763.5 Zone Tested TORONTO-LKCA
 Anchor Length 50.5 Drill Pipe Run 3675 Mud Wt. 9.1
 Top Packer Depth 3708 Drill Collars Run 29.78 Vis 52
 Bottom Packer Depth 3713 Wt. Pipe Run 0 WL 7.2
 Total Depth 3763.5 Chlorides 2600 ppm System LCM 2.0

Blow Description IF - Fair building blow, BOB @ 12 minutes 30 seconds,
ISI - Return @ 2 minutes, Built to Tracks,
FF - Fair building blow, BOB @ 12 minutes,
FBI - Return @ 30 seconds, BOB @ 1 hour 5 minutes,

Rec	Feet of	%gas	%oil	%water	%mud
242	Gassy Oil	20	80		
62	HOCGM	20	40		40

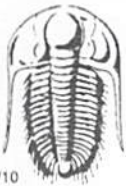
Rec Total 304 BHT _____ Gravity 18 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1852 Test 1150 T-On Location 0.330
 (B) First Initial Flow 40 Jars 250 T-Started 0.530
 (C) First Final Flow 96 Safety Joint 75 T-Open 0.703
 (D) Initial Shut-In 1167 Circ Sub T-Pulled 10.40
 (E) Second Initial Flow 107 Hourly Standby T-Out 12.45
 (F) Second Final Flow 148 Mileage 104RT 161.20 Comments Batt-0452
 (G) Final Shut-In 1154 Sampler _____
 (H) Final Hydrostatic 1796 Straddle _____

Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 60 Extra Packer _____ Ruined Packer _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 90 Day Standby _____ Total 1636.20
 Accessibility _____ MP/DST Disc _____
 Sub Total 1636.20

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52105

Well Name & No. Geyer #4-35 Test No. 2 Date 4-6-13
 Company Mulvan Drilling Co., Inc. Elevation 2400 KB 2389 GL
 Address 250 N. Water St. #300 Wichita, KS 67202
 Co. Rep / Geo. Saman Shaitare Rig Mulvan 21
 Location: Sec. 35 Twp. 10S Rge. 24W Co. Cochran State KS

Interval Tested 3765-3809 Zone Tested LKC "B-D"
 Anchor Length 44 Drill Pipe Run 3737 Mud Wt. 9.1
 Top Packer Depth 3760 Drill Collars Run 29.78 Vis 52
 Bottom Packer Depth 3765 Wt. Pipe Run Ø WL 7.2
 Total Depth 3809 Chlorides 2600 ppm System LCM 2.0

Blow Description TF- Fair building blow, BOB @ 14 minutes,
TSE- No Return,

FF- Fair building blow, BOB @ 12 minutes
FSE- Return @ 30 seconds, Died @ 19 minutes,

Rec	Feet of	%gas	%oil	%water	%mud
10'	HOCGM	25	50	25	
124'	HOCGM	30	30	40	
	555 ft gip				

Rec Total 134' BHT 114°F Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1885</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>2045</u>
(B) First Initial Flow <u>29</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>2130</u>
(C) First Final Flow <u>49</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2256</u>
(D) Initial Shut-In <u>987</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>0230</u>
(E) Second Initial Flow <u>55</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>0430</u>
(F) Second Final Flow <u>68</u>	<input checked="" type="checkbox"/> Mileage <u>104RT</u> 161.20	Comments <u>Best 2/15</u>
(G) Final Shut-In <u>998</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1845</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 90

Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1636.20

Sub Total 0
 Total 1636.20
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52106

Well Name & No. Geyer #4-35 Test No. 3 Date 4-7-13
 Company Murfin Drilling Co., Inc. Elevation 2400 KB 2389 GL
 Address 250 N. Water St. #300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharfate Rig Murfin 21
 Location: Sec. 35 Twp. 10S Rge. 24W Co. Graham State KS

Interval Tested 3806-3828 Zone Tested LKC "E-F"
 Anchor Length 22' Drill Pipe Run 3768 Mud Wt. 9.0
 Top Packer Depth 3801 Drill Collars Run 29.78 Vis 59
 Bottom Packer Depth 3806 Wt. Pipe Run 0 WL 6.4
 Total Depth 3828 Chlorides 3000 ppm System LCM 5.0

Blow Description IF - Weak building blow. Built to Traces.
ISI - No Return.
FF - Weak building blow. BOB @ 51 minutes.
FSE - Weak surface return @ 2 minutes. Died @ 26 minutes.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>Free oil</u>		<u>100</u>		
<u>68'</u>	<u>Muddy water</u>			<u>80</u>	<u>20</u>
<u>125'</u>	<u>Muddy water</u>			<u>70</u>	<u>30</u>
	<u>50' G.I.P.</u>				

Rec Total 198' BHT 117 Gravity 1150 API RW, 834 @ 77 °F Chlorides 6500 ppm

(A) Initial Hydrostatic 1912 Test 1150 T-On Location 1000
 (B) First Initial Flow 23 Jars 250 T-Started 1045
 (C) First Final Flow 62 Safety Joint 75 T-Open 1210
 (D) Initial Shut-In 855 Circ Sub T-Pulled 1615
 (E) Second Initial Flow 66 Hourly Standby T-Out 1755
 (F) Second Final Flow 111 Mileage 104 RT 161.20 Comments Bar 1038
 (G) Final Shut-In 851 Sampler
 (H) Final Hydrostatic 1877 Straddle Ruined Shale Packer

Initial Open 30 Shale Packer Ruined Packer
 Initial Shut-In 60 Extra Packer Extra Copies
 Final Flow 60 Extra Recorder Sub Total 0
 Final Shut-In 90 Day Standby Total 1636.20
 Accessibility MP/DST Disc't
 Sub Total 1636.20

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52107

Well Name & No. Geyer #4-35 Test No. 4 Date 4-8-13
 Company Murphy Drilling Co., Inc. Elevation 2400 KB 2389 GL
 Address 250 N. Water St. #300 Wichita, KS 67202
 Co. Rep / Geo. Saman Shaitaie Rig Murphy 21
 Location: Sec. 35 Twp. 10S Rge. 24W Co. Graham State KS

Interval Tested 3863-3920 Zone Tested LKC "H-I"
 Anchor Length 57' Drill Pipe Run 3829 Mud Wt. 9.2
 Top Packer Depth 3858 Drill Collars Run 29.78 Vis 57
 Bottom Packer Depth 3863 Wt. Pipe Run 0 WL 6.4
 Total Depth 3920 Chlorides 3400 ppm System LCM 4.0

Blow Description IF - Strong building blow, BOB @ 9 minutes.
ISI - No Return
FF - Strong building blow, BOB @ 5 minutes.
FSI - Return @ 30 seconds, Built to 10 inches.

Rec	Feet of	%gas	%oil	%water	%mud
<u>60"</u>	<u>Gas oil</u>	<u>10</u>	<u>90</u>		
<u>85"</u>	<u>HOCGM</u>	<u>20</u>	<u>40</u>	<u>40</u>	<u>40</u>
<u>62"</u>	<u>OCGM</u>	<u>10</u>	<u>20</u>		<u>60</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>1048 G.I.P</u>	%gas	%oil	%water	%mud

Rec Total 205 BHT 116 Gravity 41 API RW @ 65 ° F Chlorides ppm

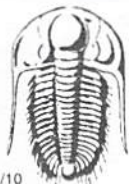
(A) Initial Hydrostatic <u>1928</u>	<input checked="" type="checkbox"/> Test 1150	T-On Location <u>0600</u>
(B) First Initial Flow <u>24</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>0645</u>
(C) First Final Flow <u>69</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>0817</u>
(D) Initial Shut-In <u>1432</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1150</u>
(E) Second Initial Flow <u>89</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1345</u>
(F) Second Final Flow <u>96</u>	<input checked="" type="checkbox"/> Mileage <u>104 RT</u> 161.20	Comments <u>Best-0642</u>
(G) Final Shut-In <u>1420</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1883</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 90

Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1636.20 MP/DST Disc't

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52108

Well Name & No. Geyer #4-35 Test No. 5 Date 4-8-13
 Company Mulvan Drilling Co., Inc. Elevation 2400 KB 2389 GL
 Address 250 N. Ward St. #300 Wichita, KS 67202
 Co. Rep / Geo. Saman Shaitare Rig Mulvan 21
 Location: Sec. 35 Twp. 10S Rge. 24W Co. Osage State KS

Interval Tested 3910-3934 Zone Tested LKC "J"
 Anchor Length 24' Drill Pipe Run 3862 Mud Wt. 9.1
 Top Packer Depth 3905 Drill Collars Run 29.78 Vis 59
 Bottom Packer Depth 3910 Wt. Pipe Run 0 WL 6.4
 Total Depth 3934 Chlorides 2800 ppm System LCM 5.0

Blow Description IF - Strong building blow, BOB @ 10 minutes,
FST - No return,
FF - Strong building blow, BOB @ 10 minutes,
FST - Surface return @ 2 minutes, Died @ 27 minutes,

Rec	Feet of	%gas	%oil	%water	%mud
<u>50'</u>	<u>Gassy oil</u>	<u>10</u>	<u>90</u>		
<u>55'</u>	<u>HOCGM</u>	<u>10</u>	<u>30</u>		<u>60</u>
<u>25'</u>	<u>SOCGWM</u>	<u>30</u>	<u>10</u>	<u>30</u>	<u>30</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>806 G.I.P.</u>	%gas	%oil	%water	%mud

Rec Total 130 BHT 116 Gravity 41 API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic 1994 Test 1150 T-On Location 1815
 (B) First Initial Flow 22 Jars 250 T-Started 1945
 (C) First Final Flow 44 Safety Joint 75 T-Open 2140
 (D) Initial Shut-In 1065 Circ Sub T-Pulled 0115
 (E) Second Initial Flow 55 Hourly Standby T-Out 0330
 (F) Second Final Flow 65 Mileage 104RT X2 322.40 Comments Part-1922
 (G) Final Shut-In 1058 Sampler
 (H) Final Hydrostatic 1856 Straddle Ruined Shale Packer

Initial Open 30 Shale Packer Ruined Packer
 Initial Shut-In 60 Extra Packer Extra Copies
 Final Flow 30 Extra Recorder Sub Total 0
 Final Shut-In 90 Day Standby Total 1797.40
 Accessibility MP/DST Disc
 Sub Total 1797.40

Approved By _____ Our Representative [Signature]
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