



DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

PO Box 352
Russell, KS. 67665

ATTN: Austin Klaus

States B #1

30-5s-20w.Phillips,KS

Start Date: 2014.05.02 @ 16:30:00

End Date: 2014.05.02 @ 23:28:30

Job Ticket #: 57617 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.05.06 @ 09:31:22



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57617

DST#: 1

ATTN: Austin Klaus

Test Start: 2014.05.02 @ 16:30:00

GENERAL INFORMATION:

Formation: **Toronto - LKC A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:43:00

Time Test Ended: 23:28:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Bob Hamel

Unit No: 67

Interval: 3372.00 ft (KB) To 3440.00 ft (KB) (TVD)

Reference Elevations: 2238.00 ft (KB)

Total Depth: 3440.00 ft (KB) (TVD)

2233.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press@RunDepth: 41.88 psig @ 3410.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.02

End Date:

2014.05.02

Last Calib.:

2014.05.02

Start Time: 16:30:01

End Time:

23:28:30

Time On Btm:

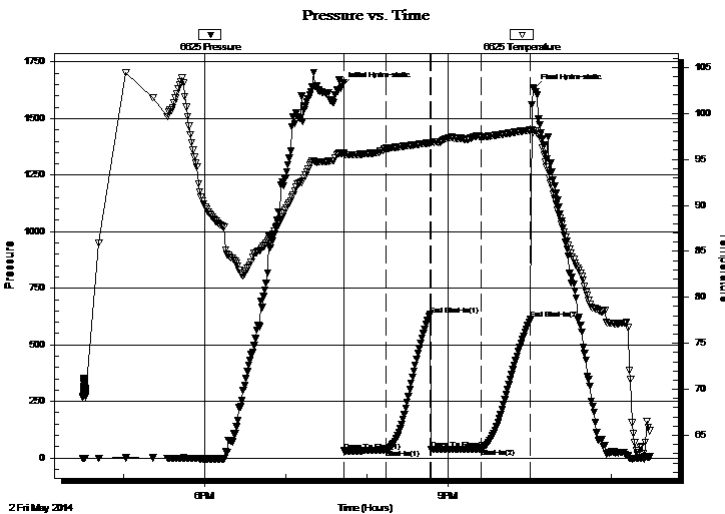
2014.05.02 @ 19:41:30

Time Off Btm:

2014.05.02 @ 22:03:30

TEST COMMENT: I.F. - 30 - Weak surface blow throughout
I.S.I. - 30 - No blow back
F.F. - 30 - Weak surface blow throughout
F.S.I. - 30 - No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1640.16	95.64	Initial Hydro-static
2	31.56	95.55	Open To Flow (1)
33	36.29	96.19	Shut-In(1)
65	633.47	96.80	End Shut-In(1)
66	37.12	96.80	Open To Flow (2)
103	41.88	97.48	Shut-In(2)
139	613.00	98.19	End Shut-In(2)
142	1632.58	98.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	MUD	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57617

DST#: 1

ATTN: Austin Klaus

Test Start: 2014.05.02 @ 16:30:00

Tool Information

Drill Pipe:	Length: 3259.00 ft	Diameter: 3.80 inches	Volume: 45.72 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 126.00 ft	Diameter: 2.25 inches	Volume: 0.62 bbl	Weight to Pull Loose:	38000.00 lb
			<u>Total Volume: 46.34 bbl</u>	Tool Chased	7.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial	35000.00 lb
Depth to Top Packer:	3372.00 ft			Final	35000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	68.00 ft				
Tool Length:	88.00 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			3353.00	
Shut In Tool	5.00			3358.00	
Hydraulic tool	5.00			3363.00	
Packer	4.00			3367.00	20.00 Bottom Of Top Packer
Packer	5.00			3372.00	
Stubb	1.00			3373.00	
Perforations	3.00			3376.00	
Change Over Sub	1.00			3377.00	
Drill Pipe	32.00			3409.00	
Change Over Sub	1.00			3410.00	
Recorder	0.00	6625	Outside	3410.00	
Recorder	0.00	8319	Inside	3410.00	
Perforations	26.00			3436.00	
Bullnose	4.00			3440.00	68.00 Bottom Packers & Anchor

Total Tool Length: 88.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57617

DST#: 1

ATTN: Austin Klaus

Test Start: 2014.05.02 @ 16:30:00

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: 68.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
10.00	MUD	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbf

Num Fluid Samples: 0

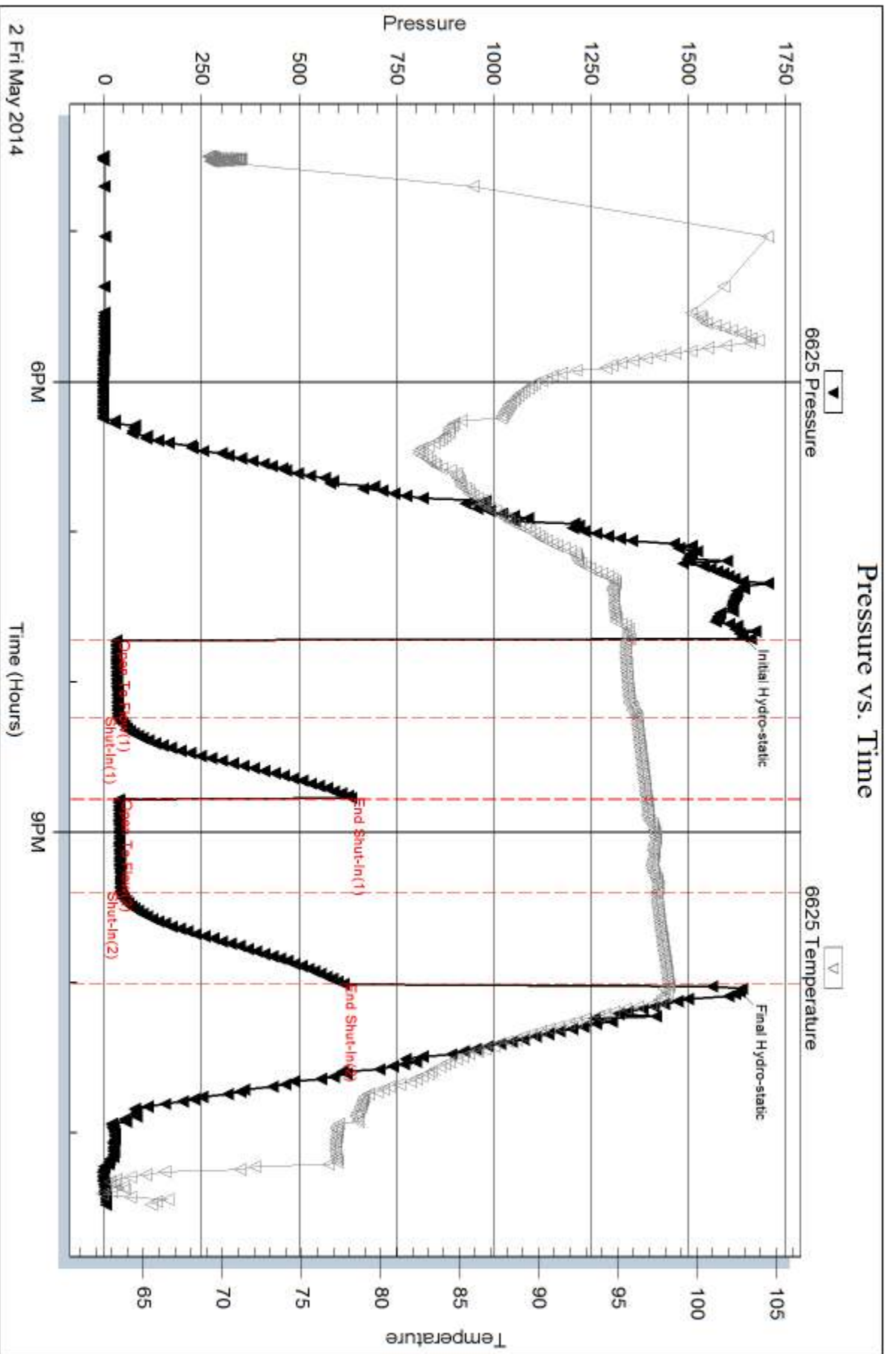
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



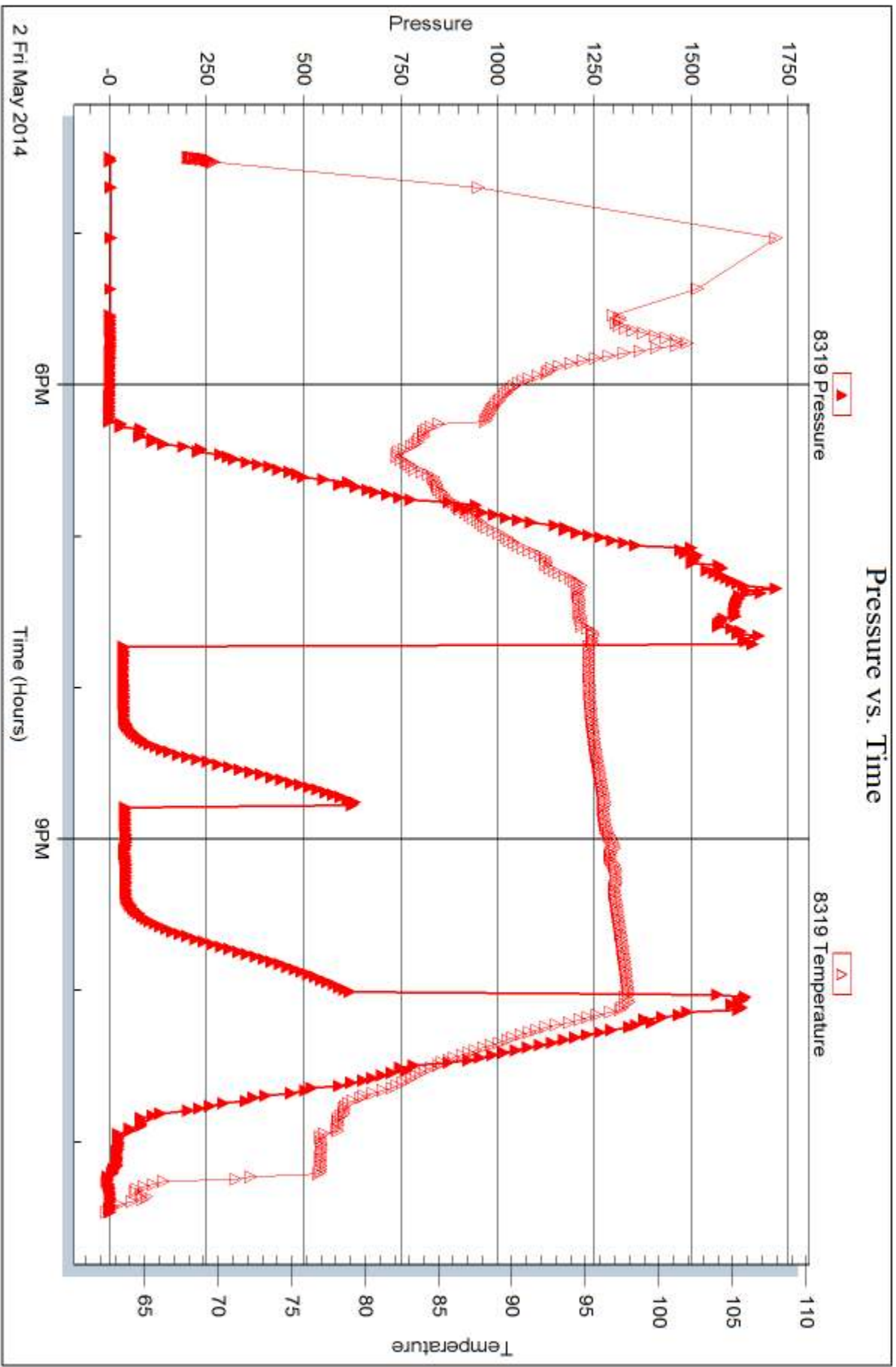
Serial #: 8319

Inside

John O Farmer

States B #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 57617

Printed: 2014.05.06 @ 09:31:23



DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

PO Box 352
Russell, KS. 67665

ATTN: Austin Klaus

States B #1

30-5s-20w.Phillips,KS

Start Date: 2014.05.03 @ 06:15:00

End Date: 2014.05.03 @ 11:23:00

Job Ticket #: 57618 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.05.06 @ 09:29:47

John O Farmer
30-5s-20w.Phillips,KS
States B #1
DST # 2
LKC " D "
2014.05.03



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57618

DST#: 2

ATTN: Austin Klaus

Test Start: 2014.05.03 @ 06:15:00

GENERAL INFORMATION:

Formation: **LKC " D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:27:00

Time Test Ended: 11:23:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bob Hamel

Unit No: 67

Interval: 3466.00 ft (KB) To 3486.00 ft (KB) (TVD)

Reference Elevations: 2238.00 ft (KB)

Total Depth: 3486.00 ft (KB) (TVD)

2233.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press@RunDepth: 258.39 psig @ 3467.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.03

End Date:

2014.05.03

Last Calib.:

2014.05.03

Start Time: 06:15:01

End Time:

11:23:00

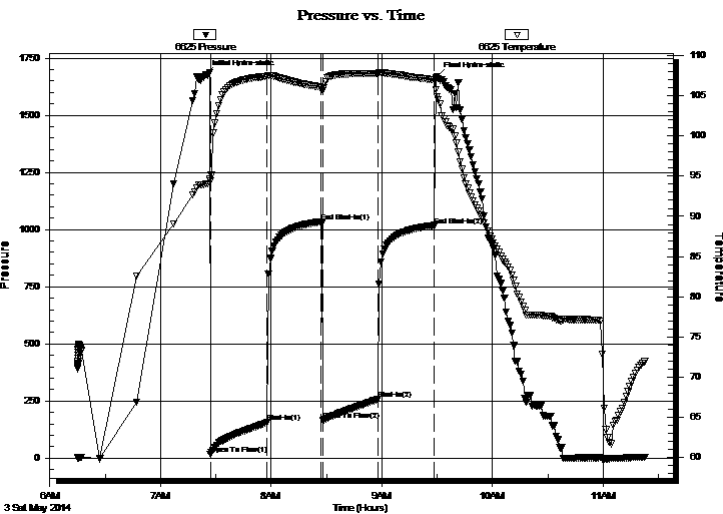
Time On Btm:

2014.05.03 @ 07:24:30

Time Off Btm:

2014.05.03 @ 09:30:00

TEST COMMENT: I.F - 30 - BOB in 8 min
I.S.I. - 30 - No blow back
F.F. - 30 - BOB in 10 min
F.S.I. - 30 - No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1679.19	94.03	Initial Hydro-static
3	18.29	94.47	Open To Flow (1)
33	155.03	107.44	Shut-In(1)
63	1034.16	106.08	End Shut-In(1)
64	166.17	105.63	Open To Flow (2)
94	258.39	107.82	Shut-In(2)
124	1018.08	106.99	End Shut-In(2)
126	1668.34	104.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	S,O,C,M, 5% O 95% M	0.25
483.00	S,O,C,M,W, 5%O 10%M 85%W	6.08
3.00	CLEAN OIL 100%	0.04

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57618

DST#: 2

ATTN: Austin Klaus

Test Start: 2014.05.03 @ 06:15:00

GENERAL INFORMATION:

Formation: **LKC " D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:27:00

Time Test Ended: 11:23:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bob Hamel

Unit No: 67

Interval: 3466.00 ft (KB) To 3486.00 ft (KB) (TVD)

Reference Elevations: 2238.00 ft (KB)

Total Depth: 3486.00 ft (KB) (TVD)

2233.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8319 Inside

Press@RunDepth: psig @ 3467.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.03

End Date:

2014.05.03

Last Calib.:

2014.05.03

Start Time: 06:15:01

End Time:

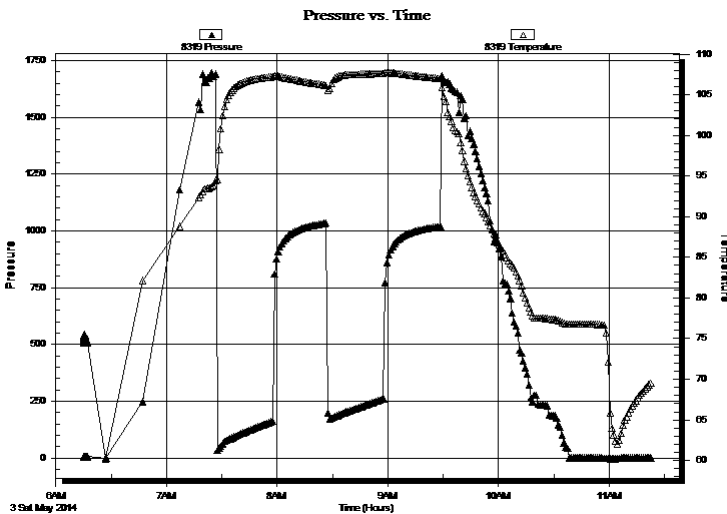
11:23:00

Time On Btm:

Time Off Btm:

TEST COMMENT: I.F - 30 - BOB in 8 min
I.S.I. - 30 - No blow back
F.F. - 30 - BOB in 10 min
F.S.I. - 30 - No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
50.00	S,O,C,M, 5% O 95% M	0.25
483.00	S,O,C,M,W, 5%O 10%M 85%W	6.08
3.00	CLEAN OIL 100%	0.04

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57618

DST#: 2

ATTN: Austin Klaus

Test Start: 2014.05.03 @ 06:15:00

Tool Information

Drill Pipe:	Length: 3332.00 ft	Diameter: 3.80 inches	Volume: 46.74 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 126.00 ft	Diameter: 2.25 inches	Volume: 0.62 bbl	Weight to Pull Loose:	38000.00 lb
			<u>Total Volume: 47.36 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	35000.00 lb
Depth to Top Packer:	3466.00 ft			Final	38000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	20.00 ft				
Tool Length:	40.00 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			3447.00	
Shut In Tool	5.00			3452.00	
Hydraulic tool	5.00			3457.00	
Packer	4.00			3461.00	20.00 Bottom Of Top Packer
Packer	5.00			3466.00	
Stubb	1.00			3467.00	
Recorder	0.00	6625	Outside	3467.00	
Recorder	0.00	8319	Inside	3467.00	
Perforations	15.00			3482.00	
Bullnose	4.00			3486.00	20.00 Bottom Packers & Anchor
Total Tool Length:	40.00				



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57618

DST#: 2

ATTN: Austin Klaus

Test Start: 2014.05.03 @ 06:15:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

17.2 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

126000 ppm

Viscosity: 68.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	S,O,C,M, 5% O 95% M	0.246
483.00	S,O,C,M,W, 5%O 10%M 85%W	6.083
3.00	CLEAN OIL 100%	0.042

Total Length: 536.00 ft Total Volume: 6.371 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

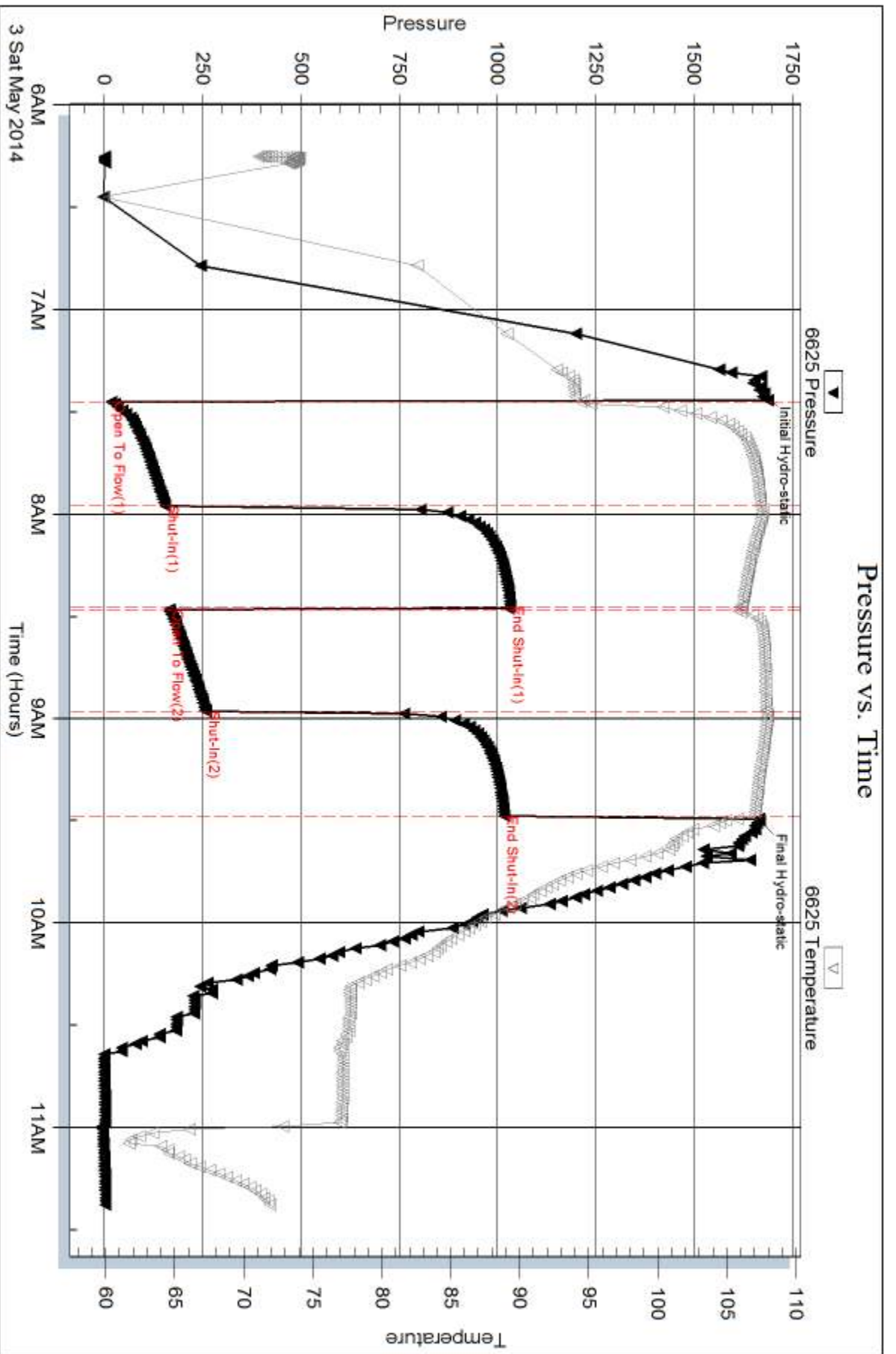
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: R.W. = .07 OHMS @ 71 DEG.

CORRECTED OIL GRAVITY = 17.2 A.P.I. @ 60 DEG.



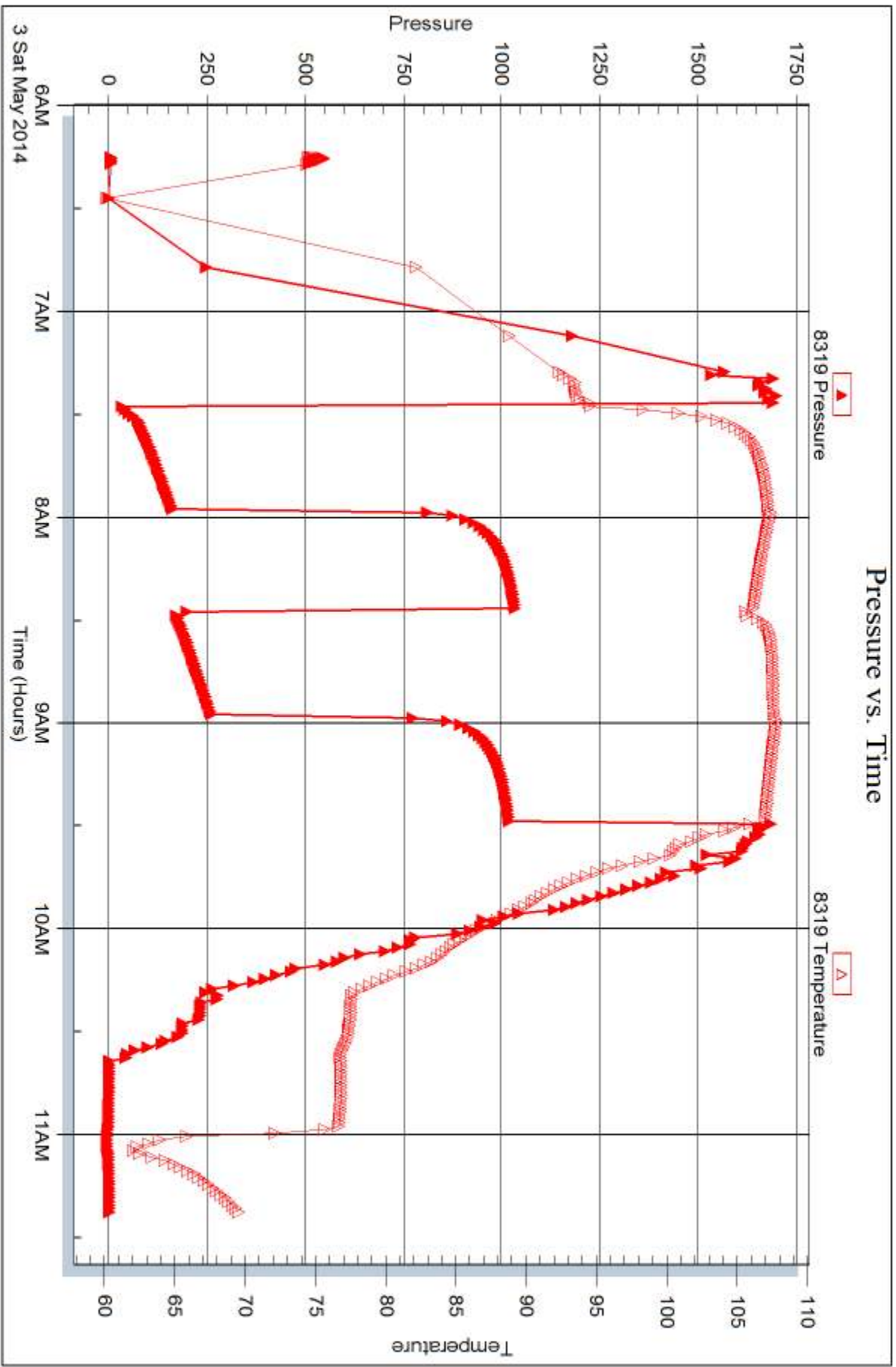
Serial #: 8319

Inside

John O Farmer

States B #1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

PO Box 352
Russell, KS. 67665

ATTN: Austin Klaus

States B #1

30-5s-20w.Phillips,KS

Start Date: 2014.05.03 @ 18:04:00

End Date: 2014.05.04 @ 00:39:00

Job Ticket #: 57619 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.05.06 @ 09:29:17

John O Farmer
30-5s-20w.Phillips,KS
States B #1
DST # 3
LKC "G"
2014.05.03



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57619

DST#: 3

ATTN: Austin Klaus

Test Start: 2014.05.03 @ 18:04:00

GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:46:00

Time Test Ended: 00:39:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bob Hamel

Unit No: 67

Interval: 3498.00 ft (KB) To 3525.00 ft (KB) (TVD)

Reference Elevations: 2238.00 ft (KB)

Total Depth: 3525.00 ft (KB) (TVD)

2233.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press@RunDepth: 89.16 psig @ 3499.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.03

End Date:

2014.05.04

Last Calib.: 2014.05.03

Start Time: 18:04:01

End Time:

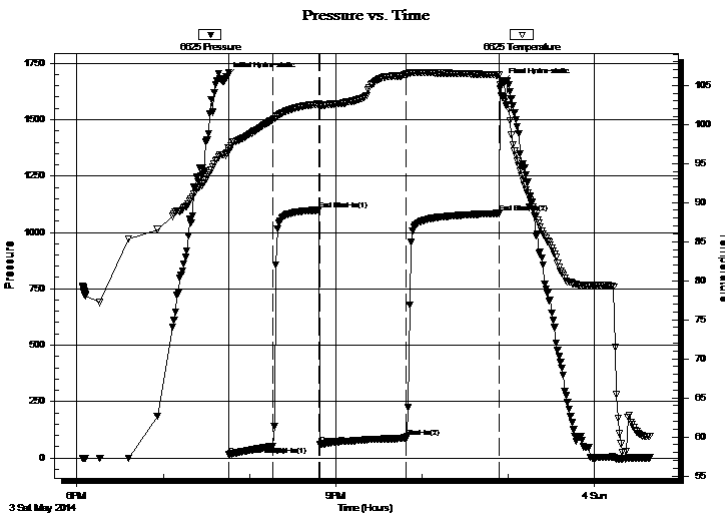
00:39:00

Time On Btm: 2014.05.03 @ 19:44:00

Time Off Btm: 2014.05.03 @ 22:56:00

TEST COMMENT: I.F. - 30 - Weak blow built to 3"
I.S.I. - 30 - No blow back
F.F. - 60 - Weak blow built to 4"
F.S.I - 60 - No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1691.55	96.22	Initial Hydro-static
2	13.18	96.61	Open To Flow (1)
33	51.78	100.63	Shut-In(1)
65	1099.28	102.62	End Shut-In(1)
65	59.66	102.48	Open To Flow (2)
125	89.16	106.44	Shut-In(2)
190	1084.60	106.32	End Shut-In(2)
192	1666.04	103.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
165.00	S,O,S,M,W 1% OIL 5% MUD 94% WTR.	1.17

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

John O Farmer
 PO Box 352
 Russell, KS. 67665
 ATTN: Austin Klaus

30-5s-20w.Phillips,KS

States B #1

Job Ticket: 57619

DST#: 3

Test Start: 2014.05.03 @ 18:04:00

GENERAL INFORMATION:

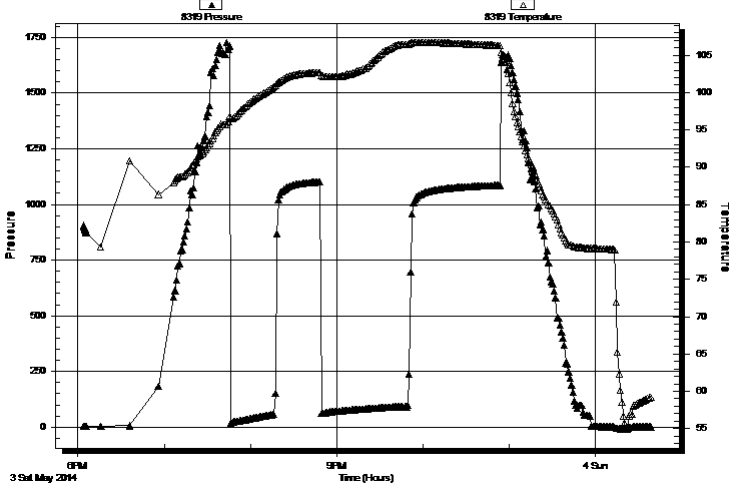
Formation: **LKC "G"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 19:46:00 Tester: Bob Hamel
 Time Test Ended: 00:39:00 Unit No: 67
 Interval: **3498.00 ft (KB) To 3525.00 ft (KB) (TVD)**
 Total Depth: 3525.00 ft (KB) (TVD) Reference Elevations: 2238.00 ft (KB)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8319 Inside

Press@RunDepth: psig @ 3499.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.05.03	End Date: 2014.05.04
Start Time: 18:04:01	End Time: 00:39:00
	Last Calib.: 2014.05.04
	Time On Btm:
	Time Off Btm:

TEST COMMENT: I.F. - 30 - Weak blow built to 3"
 I.S.I. - 30 - No blow back
 F.F. - 60 - Weak blow built to 4"
 F.S.I - 60 - No blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
165.00	S,O,S,M,W 1% OIL 5% MUD 94% WTR.	1.17

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57619

DST#: 3

ATTN: Austin Klaus

Test Start: 2014.05.03 @ 18:04:00

Tool Information

Drill Pipe:	Length: 3358.00 ft	Diameter: 3.80 inches	Volume: 47.10 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 126.00 ft	Diameter: 2.25 inches	Volume: 0.62 bbl	Weight to Pull Loose:	38000.00 lb
			<u>Total Volume: 47.72 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	35000.00 lb
Depth to Top Packer:	3498.00 ft			Final	35000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	27.00 ft				
Tool Length:	47.00 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			3479.00	
Shut In Tool	5.00			3484.00	
Hydraulic tool	5.00			3489.00	
Packer	4.00			3493.00	20.00 Bottom Of Top Packer
Packer	5.00			3498.00	
Stubb	1.00			3499.00	
Recorder	0.00	6625	Outside	3499.00	
Recorder	0.00	8319	Inside	3499.00	
Perforations	22.00			3521.00	
Bullnose	4.00			3525.00	27.00 Bottom Packers & Anchor
Total Tool Length:	47.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57619

DST#: 3

ATTN: Austin Klaus

Test Start: 2014.05.03 @ 18:04:00

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: 55.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
165.00	S,O,S,M,W 1% OIL 5%MUD 94%WTR.	1.167

Total Length: 165.00 ft Total Volume: 1.167 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

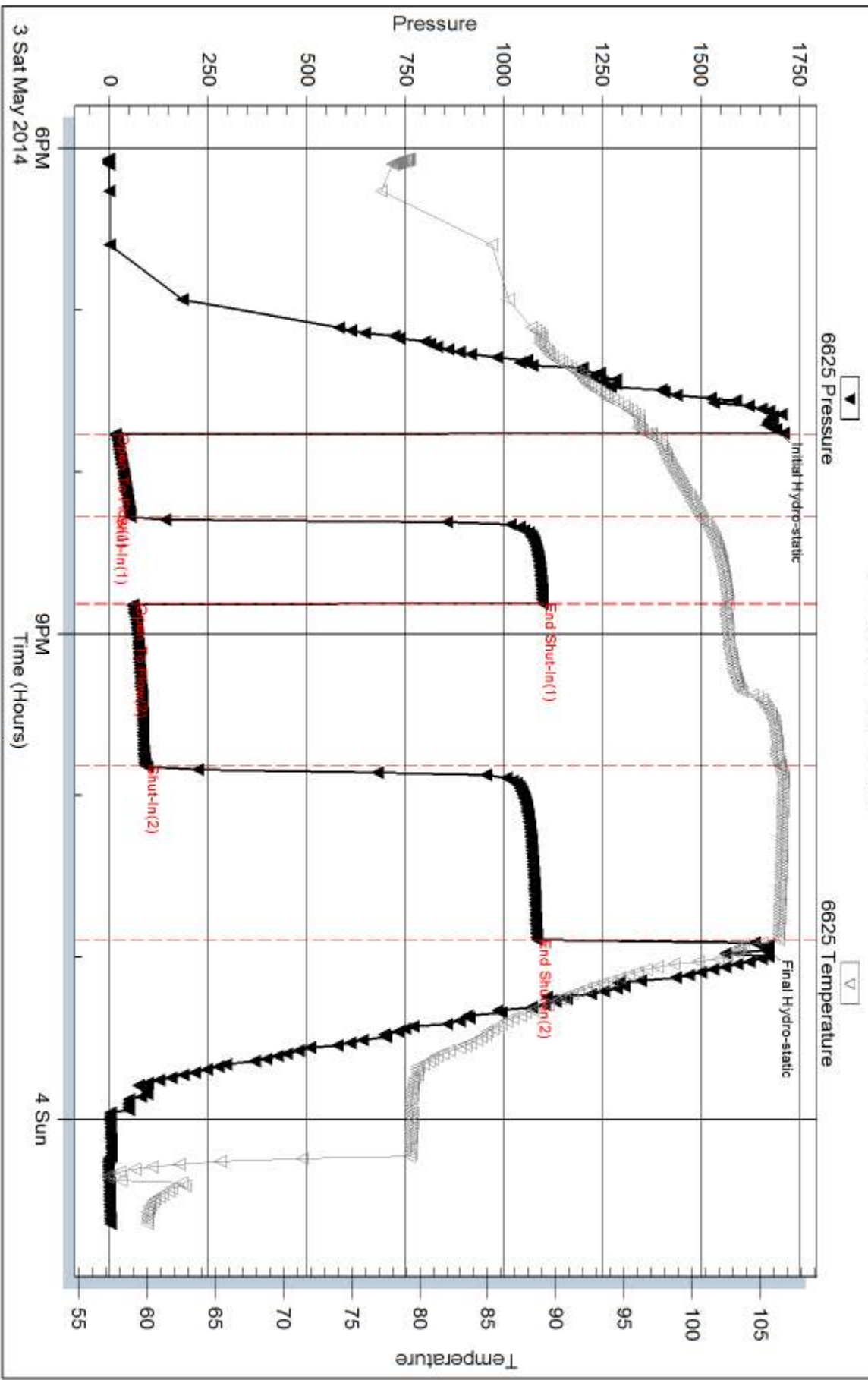
Laboratory Name:

Laboratory Location:

Recovery Comments: R.W. = .074 OHMS @ 60 DEG.

CHLORIDES = 150,000 P.P.M.

Pressure vs. Time



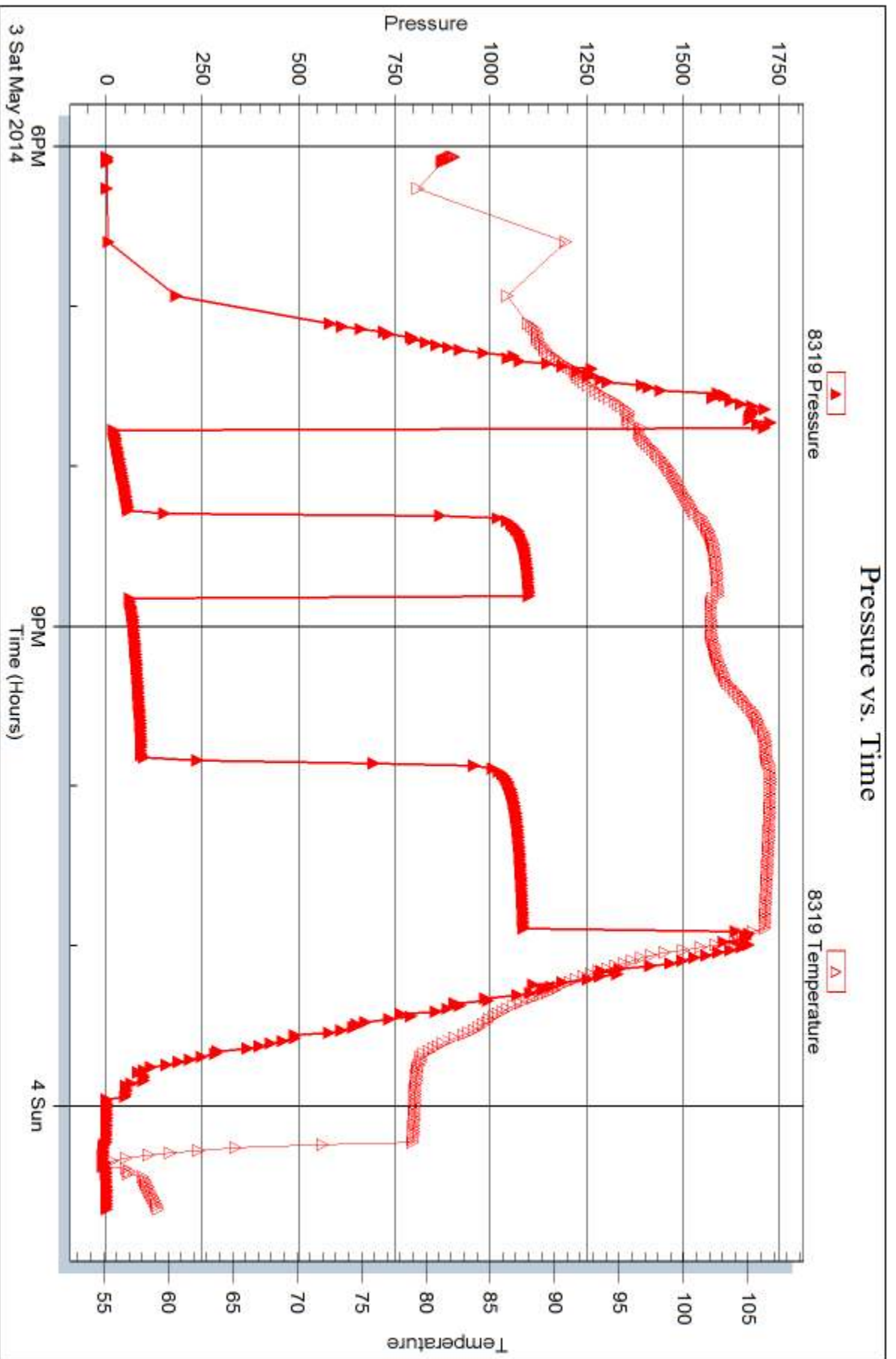
Serial #: 8319

Inside

John O Farmer

States B #1

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 57619

Printed: 2014.05.06 @ 09:29:18



DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

PO Box 352
Russell, KS. 67665

ATTN: Austin Klaus

States B #1

30-5s-20w.Phillips,KS

Start Date: 2014.05.04 @ 12:35:00

End Date: 2014.05.04 @ 18:27:00

Job Ticket #: 57620 DST #: 4

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.05.06 @ 09:28:25



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57620

DST#: 4

ATTN: Austin Klaus

Test Start: 2014.05.04 @ 12:35:00

GENERAL INFORMATION:

Formation: **Regan Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:44:30

Time Test Ended: 18:27:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bob Hamel

Unit No: 67

Interval: 3600.00 ft (KB) To 3677.00 ft (KB) (TVD)

Reference Elevations: 2238.00 ft (KB)

Total Depth: 3677.00 ft (KB) (TVD)

2233.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press@RunDepth: 981.63 psig @ 3666.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.04

End Date:

2014.05.04

Last Calib.:

2014.05.04

Start Time: 12:35:01

End Time:

18:27:00

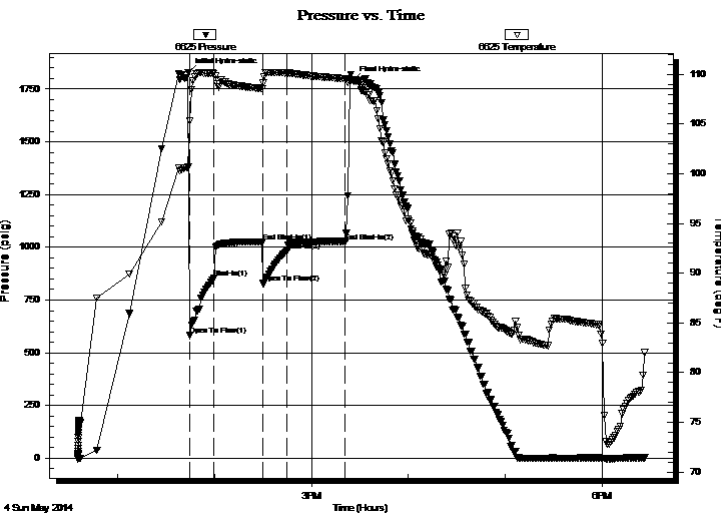
Time On Btm:

2014.05.04 @ 13:43:30

Time Off Btm:

2014.05.04 @ 15:25:30

TEST COMMENT: I.F. - 15 - BOB in 10 sec
I.S.I. - 30 - No blow back
F.F. - 15 - BOB in 30 sec
F.S.I. - 30 - No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1829.30	100.64	Initial Hydro-static
1	582.33	105.27	Open To Flow (1)
16	852.36	110.09	Shut-In(1)
46	1027.20	108.56	End Shut-In(1)
47	829.13	109.13	Open To Flow (2)
62	981.63	110.12	Shut-In(2)
98	1026.89	109.55	End Shut-In(2)
102	1789.13	109.45	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	MUD 100%	0.05
1376.00	S,M,C,W, 5%M 95%WTR	18.24
756.00	S,O,S,M,C,W, 1%O 15%M 84%WTR	10.60

Gas Rates

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

* Recovery from multiple tests



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States B #1

Job Ticket: 57620

DST#: 4

ATTN: Austin Klaus

Test Start: 2014.05.04 @ 12:35:00

GENERAL INFORMATION:

Formation: **Regan Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:44:30

Time Test Ended: 18:27:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bob Hamel

Unit No: 67

Interval: **3600.00 ft (KB) To 3677.00 ft (KB) (TVD)**

Total Depth: 3677.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2238.00 ft (KB)

2233.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8319 Inside

Press@RunDepth: psig @ 3666.00 ft (KB)

Start Date: 2014.05.04

End Date:

2014.05.04

Start Time: 12:35:01

End Time:

19:56:30

Capacity: 8000.00 psig

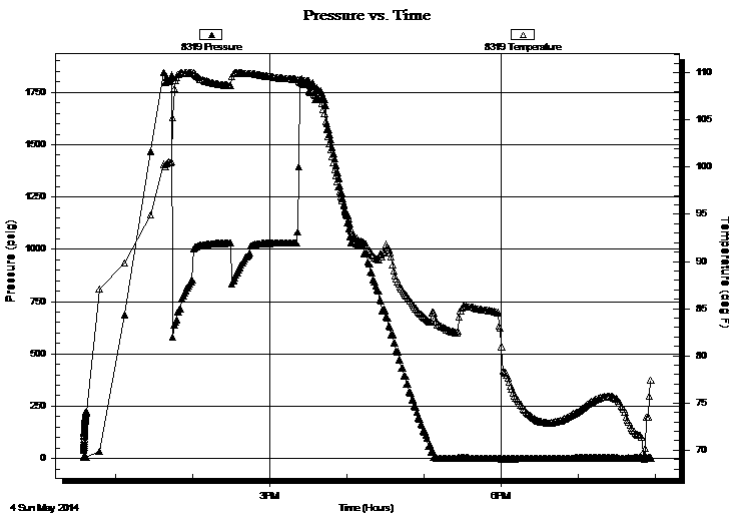
Last Calib.: 2014.05.04

Time On Btm:

Time Off Btm:

TEST COMMENT: I.F. - 15 - BOB in 10 sec
I.S.I. - 30 - No blow back
F.F. - 15 - BOB in 30 sec
F.S.I. - 30 - No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
10.00	MUD 100%	0.05
1376.00	S,M,C,W, 5%M 95%WTR	18.24
756.00	S,O,S,M,C,W, 1%O 15%M 84%WTR	10.60

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57620

DST#: 4

ATTN: Austin Klaus

Test Start: 2014.05.04 @ 12:35:00

Tool Information

Drill Pipe:	Length: 3486.00 ft	Diameter: 3.80 inches	Volume: 48.90 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 126.00 ft	Diameter: 2.25 inches	Volume: 0.62 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume: 49.52 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	36000.00 lb
Depth to Top Packer:	3600.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	77.00 ft				
Tool Length:	97.00 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			3581.00	
Shut In Tool	5.00			3586.00	
Hydraulic tool	5.00			3591.00	
Packer	4.00			3595.00	20.00 Bottom Of Top Packer
Packer	5.00			3600.00	
Stubb	1.00			3601.00	
Perforations	1.00			3602.00	
Change Over Sub	1.00			3603.00	
Drill Pipe	62.00			3665.00	
Change Over Sub	1.00			3666.00	
Recorder	0.00	6625	Outside	3666.00	
Recorder	0.00	8319	Inside	3666.00	
Perforations	7.00			3673.00	
Bullnose	4.00			3677.00	77.00 Bottom Packers & Anchor

Total Tool Length: 97.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer

30-5s-20w.Phillips,KS

PO Box 352
Russell, KS. 67665

States B #1

Job Ticket: 57620

DST#: 4

ATTN: Austin Klaus

Test Start: 2014.05.04 @ 12:35:00

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:

30000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	MUD 100%	0.049
1376.00	S,M,C,W, 5%M 95%WTR.	18.245
756.00	S,O,S,M,C,W, 1%O 15%M 84%WTR	10.605

Total Length: 2142.00 ft Total Volume: 28.899 bbl

Num Fluid Samples: 0

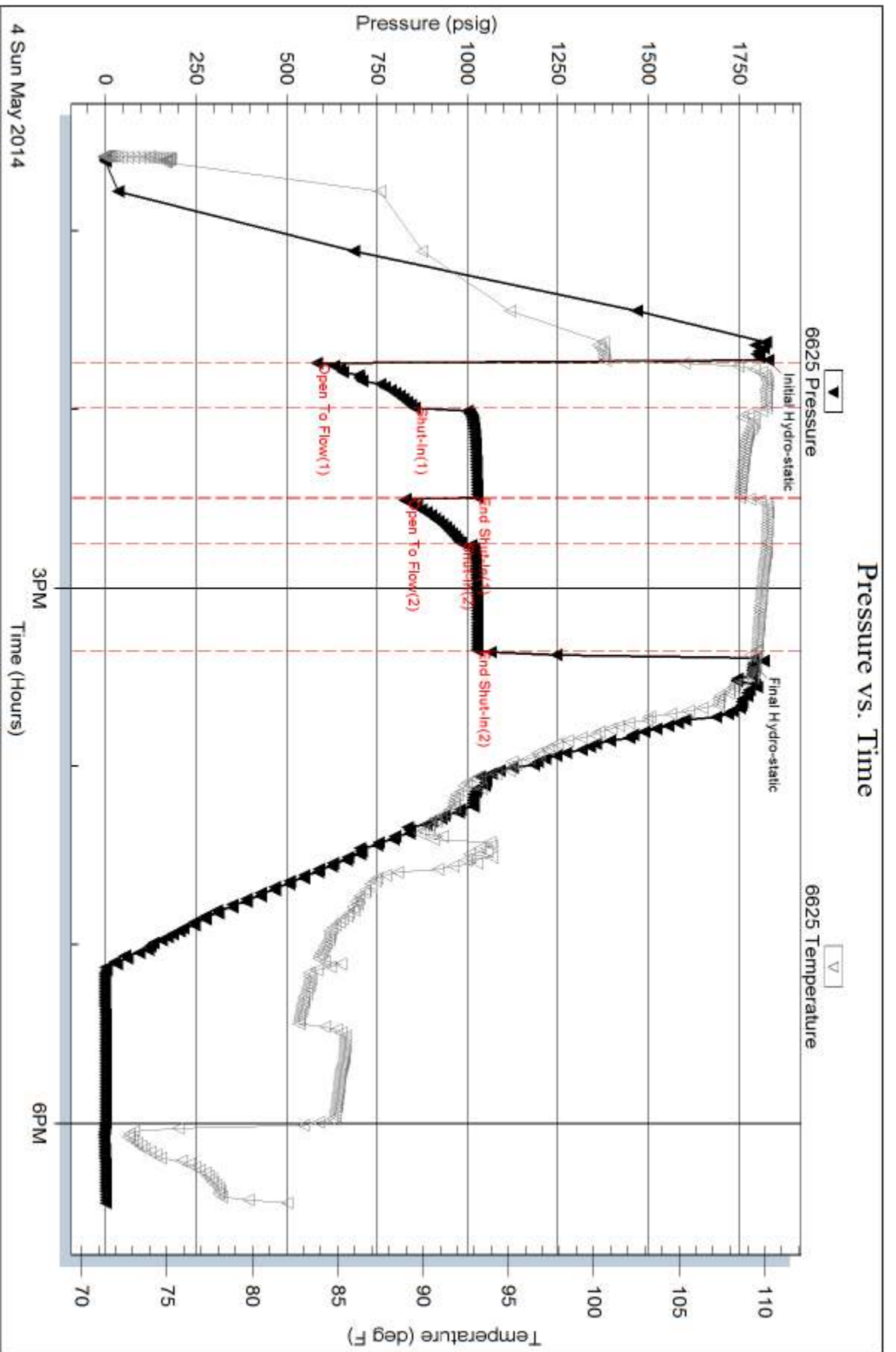
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: "R.W. = .21 OHMS @ 78.4 DEG."



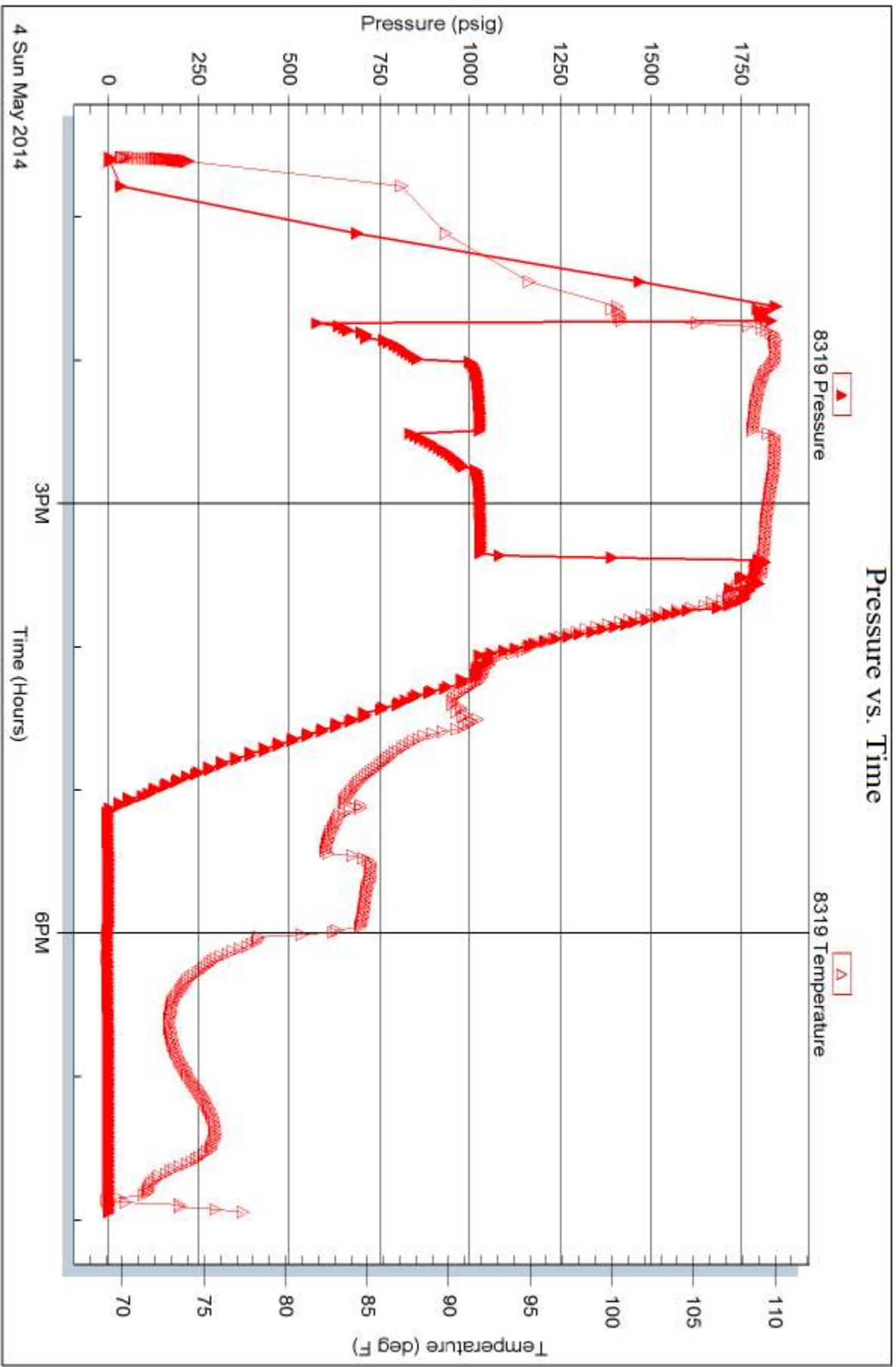
Serial #: 8319

Inside

John O Farmer

States B #1

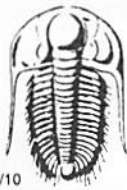
DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 57620

Printed: 2014.05.06 @ 09:28:26



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57617

Well Name & No. States B#1 Test No. 1 Date 5-2-14
 Company John v. farmer h.h.c Elevation 2238 KB 2233 GL
 Address 370 W. Wichita P.O. Box 352 Russell KS. 67665
 Co. Rep / Geo. Austin Klaus Rig WW. Rig #6
 Location: Sec. 30 Twp. S - S. Rge. 20 - W Co. Phillips State KS.

Interval Tested 3372 - 3440 Zone Tested h.k.c. 'A' + toronto
 Anchor Length 68 Drill Pipe Run 3259 Mud Wt. 9.0
 Top Packer Depth 3367 Drill Collars Run 126 Vis 68
 Bottom Packer Depth 3372 Wt. Pipe Run — WL 7.2
 Total Depth 3440 Chlorides 500 ppm System LCM 1 1/2

Blow Description I.F-30 - 1/2 INT. Blow NO build
I.S.I-30 - No B.B.
E.F-30 - W.S.B. NO Build
E.S.I-30 - No B.B.

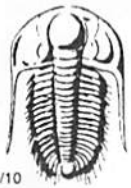
Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>mud.</u>				<u>100</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10' BHT 98 Gravity — API RW — @ — °F Chlorides — ppm
 Test 1150 T-On Location 15:40:00
 Jars T-Started 16:30:00
 Safety Joint T-Open 19:54:00
 Circ Sub T-Pulled 21:54:00
 Hourly Standby T-Out 23:39:00
 Mileage 140 / R.T. Comments tool slid 7'
 Sampler 130rt 201.50
 Straddle
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30
 Sub Total 1351.50
 Total 1351.50
 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. 57618

4/10

Well Name & No. States B#1 Test No. 2 Date 5-3-14
 Company John O. Farmer L.L.C. Elevation 2238 KB 22383 GL
 Address 320 W. Wichita P.O. Box 352 Russell KS. 67665
 Co. Rep / Geo. Austin Klaus Rig W.W. Rig 6
 Location: Sec. 30 Twp. 5-s. Rge. 20-w. Co. Phillips State KS.

Interval Tested 3466-3486 Zone Tested h.k.c. 'D'
 Anchor Length 20' Drill Pipe Run 3332.0 Mud Wt. 9.0
 Top Packer Depth 3461 Drill Collars Run 126 Vis 68
 Bottom Packer Depth 3466 Wt. Pipe Run _____ WL 7.2
 Total Depth 3486 Chlorides 500 ppm System LCM 1/2

Blow Description I.F. - 30 - 1/2" INT. Blow Built to (B.O.B. in 8 min.)
I.S.I. - 30 - No B.B.
E.F. - 30 - 1/2" INT. Blow Built to (B.O.B. in 10 min.)
E.S.I. - 30 - No B.B.

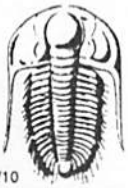
Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>Clean oil</u>	<u>100</u>			
<u>483</u>	<u>5.0' m, w</u>	<u>5</u>	<u>85</u>	<u>10</u>	
<u>50</u>	<u>5.0' C, m</u>	<u>5</u>		<u>95</u>	
____	____	____	____	____	____
____	____	____	____	____	____

Rec Total 536 BHT 104.9 Gravity 17.2 API RW .07 @ 71 °F Chlorides 126,000 ppm
 (A) Initial Hydrostatic 1,679 Test 1150 T-On Location 05:58:00
 (B) First Initial Flow 18 Jars _____ T-Started 06:15:00
 (C) First Final Flow 155 Safety Joint _____ T-Open 07:49:00
 (D) Initial Shut-In 1,034 Circ Sub _____ T-Pulled 09:49:00
 (E) Second Initial Flow 166 Hourly Standby _____ T-Out 11:45:00
 (F) Second Final Flow 258 Mileage 140/R+ 201.50 Comments _____
 (G) Final Shut-In 1,018 Sampler _____ "Thank you"
 (H) Final Hydrostatic 1,668 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 30 Extra Packer _____ Extra Copies _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 30 Day Standby _____ Total 1351.50
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1351.50

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57619

Well Name & No. States B#1 Test No. 3 Date 5-3-14
 Company John o. farmer L. h. c. Elevation 2238 KB 2233 GL
 Address 370 W. Wichita P.O. Box 352 Russell KS, 67665
 Co. Rep / Geo. Austin Klaus Rig W.W. Rig #6
 Location: Sec. 30 Twp. S - S. Rge. 20 - W. Co. Phillips State KS.

Interval Tested 3498 - 3525 Zone Tested L.H.C. "G."
 Anchor Length 27' Drill Pipe Run 3358 Mud Wt. 9.1
 Top Packer Depth 3493 Drill Collars Run 126 Vis 55
 Bottom Packer Depth 3498 Wt. Pipe Run _____ WL 7.6
 Total Depth 3525 Chlorides 750 ppm System LCM 1

Blow Description I.F.-30-1/2" INT. Blow Built to (3" in 30min.)
I.S.I.-30-NO B.B.
F.F.-60-W.S.B. Started @ 4min. Built to (4" in 60min.)
F.S.I.-60-NO B.B.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>165</u>	Feet of <u>S, O, S, M, W</u>	%gas	<u>1</u> %oil	<u>99</u> %water	<u>5</u> %mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 165 BHT 103.5 Gravity _____ API RW, 074 @ 60 °F Chlorides 150,000 ppm
 (A) Initial Hydrostatic 1692 Test 1150 T-On Location 17:45:00
 (B) First Initial Flow 13 Jars _____ T-Started 18:04:00
 (C) First Final Flow 52 Safety Joint _____ T-Open 19:46:00
 (D) Initial Shut-In 1,099 Circ Sub _____ T-Pulled 22:46:00
 (E) Second Initial Flow 60 Hourly Standby _____ T-Out 00:38:00
 (F) Second Final Flow 89 Mileage 140 R.T. 201.50 Comments _____
 (G) Final Shut-In 1,085 Sampler _____ "Thank-you"
 (H) Final Hydrostatic 1,666 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 30 Extra Packer _____ Extra Copies _____
 Final Flow 60 Extra Recorder _____ Sub Total 0
 Final Shut-In 60 Day Standby _____ Total 1351.50
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1351.50

Approved By _____ Our Representative Bob Thomas

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57620

Well Name & No. States B^{#1} Test No. 4 Date 5-4-14
 Company John O. Farmer Elevation 2238 KB 2233 GL
 Address 370 W. Wichita P.O. Box 352 Russell KS. 67665
 Co. Rep / Geo. Austin Klaus Rig W.W. Rig #6
 Location: Sec. 30 Twp. S - S. Rge. 20 - W. Co. Phillips State KS.

Interval Tested 3608 - 3877 Zone Tested Regan Sand
 Anchor Length 77 Drill Pipe Run 3486 Mud Wt. 9.4
 Top Packer Depth 3595 Drill Collars Run 126 Vis 54
 Bottom Packer Depth 3600 Wt. Pipe Run 750 WL 8
 Total Depth 3677 Chlorides 750 ppm System LCM 1/2

Blow Description I.F. - 15 - B.O.B. IN Start.
I.S.I - 30 - NO B.B.
F.F. - 15 - B.O.B. in 30 Sec.
F.S.I - 30 - NO B.B.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>756</u>	Feet of <u>5, 0, 5 M, C, W (sum of oil)</u>	%gas	<u>1</u> %oil	<u>84</u> %water	<u>15</u> %mud
Rec <u>1376</u>	Feet of <u>5, M, C, W</u>	%gas	%oil	<u>95</u> %water	<u>5</u> %mud
Rec <u>10</u>	Feet of <u>Mud</u>	%gas	%oil	%water	<u>10</u> %mud

Rec Total 2,142 BHT 109 Gravity - API RW 21 @ 78.4° F Chlorides 30,000 ppm
 (A) Initial Hydrostatic 1,823 Test 1150 T-On Location 12:07:00
 (B) First Initial Flow 582 Jars T-Started 12:35:00
 (C) First Final Flow 852 Safety Joint T-Open 13:50:00
 (D) Initial Shut-In 1,027 Circ Sub T-Pulled 15:20:00
 (E) Second Initial Flow 829 Hourly Standby T-Out 18:33:00
 (F) Second Final Flow 982 Mileage 140/R.T. 201.50 Comments _____
 (G) Final Shut-In 1,027 Sampler "Thank-you"
 (H) Final Hydrostatic 1,789 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies

Initial Open 15
 Initial Shut-In 30
 Final Flow 15
 Final Shut-In 30
 Sub Total 1351.50
 Total 1351.50
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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