

RILOBITE
TESTING, INC

Staab Oil Company

1607 Hopewell Rd
Hays KS 67601+9443

ATTN: Janel Staab

9-12W-21S Trego, KS

Todd Hixon Road #1

Job Ticket: 63219 DST#: 1

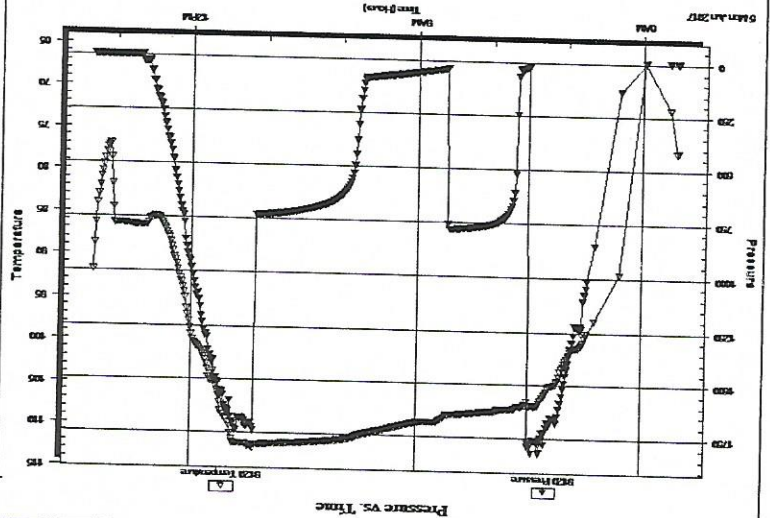
Test Start: 2017.06.05 @ 05:31:00

GENERAL INFORMATION:

Formation: LKC "A-B"
Deviated: No Whipstock:
Time Tool Opened: 07:31:45
Time Test Ended: 13:19:00
Interval: 3623.00 ft (KB) To 3660.00 ft (KB) (TVD)
Total Depth: 3660.00 ft (KB) (TVD)
Hole Diameter: 7.88 inchesHole Condition:
Serial #: 9120 Inside
Press@RunDepth: psig @ 3626.00 ft (KB)
Start Date: 2017.06.05
Start Time: 05:31:15
End Date: 2017.06.05
End Time: 13:19:00
Capacity: 8000.00 psig
Last Calib.:
Time On Blm:
Time Off Blm:

TEST COMMENT:
5-F-Weak Blow: Built from surface to 1 3/4"
60-ISF-No Blow Back
60-FF-Fair Blow: Built from surface to 3 3/4"
90-FSH-No Blow Back

PRESSURE SUMMARY

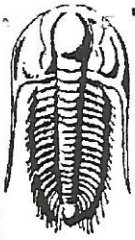


Recovery

Length (ft)	Description	Volume (bbl)
60.00	MCW w /scum oil 30%M 70%W	0.44
120.00	GWCM w /scum oil 10%G 40%W 50%M	0.88
40.00	OCM 8%O 92%M	0.29
20.00	MCO 5%M 95%O	0.15
0.00	30' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Staab Oil Company
1607 Hopewell Rd
Hays KS 67601+9443
ATTN: Janel Staab

9-12W-21S Trego, KS
Todd Hixon Road #1
Job Ticket: 63219 DST#: 1
Test Start: 2017.06.05 @ 05:31:00

Tool Information

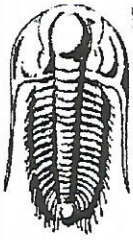
Drill Pipe:	Length: 3146.00 ft	Diameter: 3.80 inches	Volume: 44.13 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 466.00 ft	Diameter: 2.75 inches	Volume: 3.42 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 47.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3623.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	65.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3596.00	
Shut In Tool	5.00			3601.00	
Hydraulic tool	5.00			3606.00	
Jars	5.00			3611.00	
Safety Joint	3.00			3614.00	
Packer	5.00			3619.00	28.00 Bottom Of Top Packer
Packer	4.00			3623.00	
Stubb	1.00			3624.00	
Perforations	2.00			3626.00	
Recorder	0.00	9120	Inside	3626.00	
Recorder	0.00	8934	Outside	3626.00	
Perforations	29.00			3655.00	
Bullnose	5.00			3660.00	37.00 Bottom Packers & Anchor

Total Tool Length: 65.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Staab Oil Company
1607 Hopewell Rd
Hays KS 67601+9443
ATTN: Janel Staab

9-12W-21S Trego, KS
Todd Hixon Road #1
Job Ticket: 63219 DST#: 1
Test Start: 2017.06.05 @ 05:31:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 45 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 63000 ppm
Viscosity: 58.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.40 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 4500.00 ppm		
Filter Cake: inches		

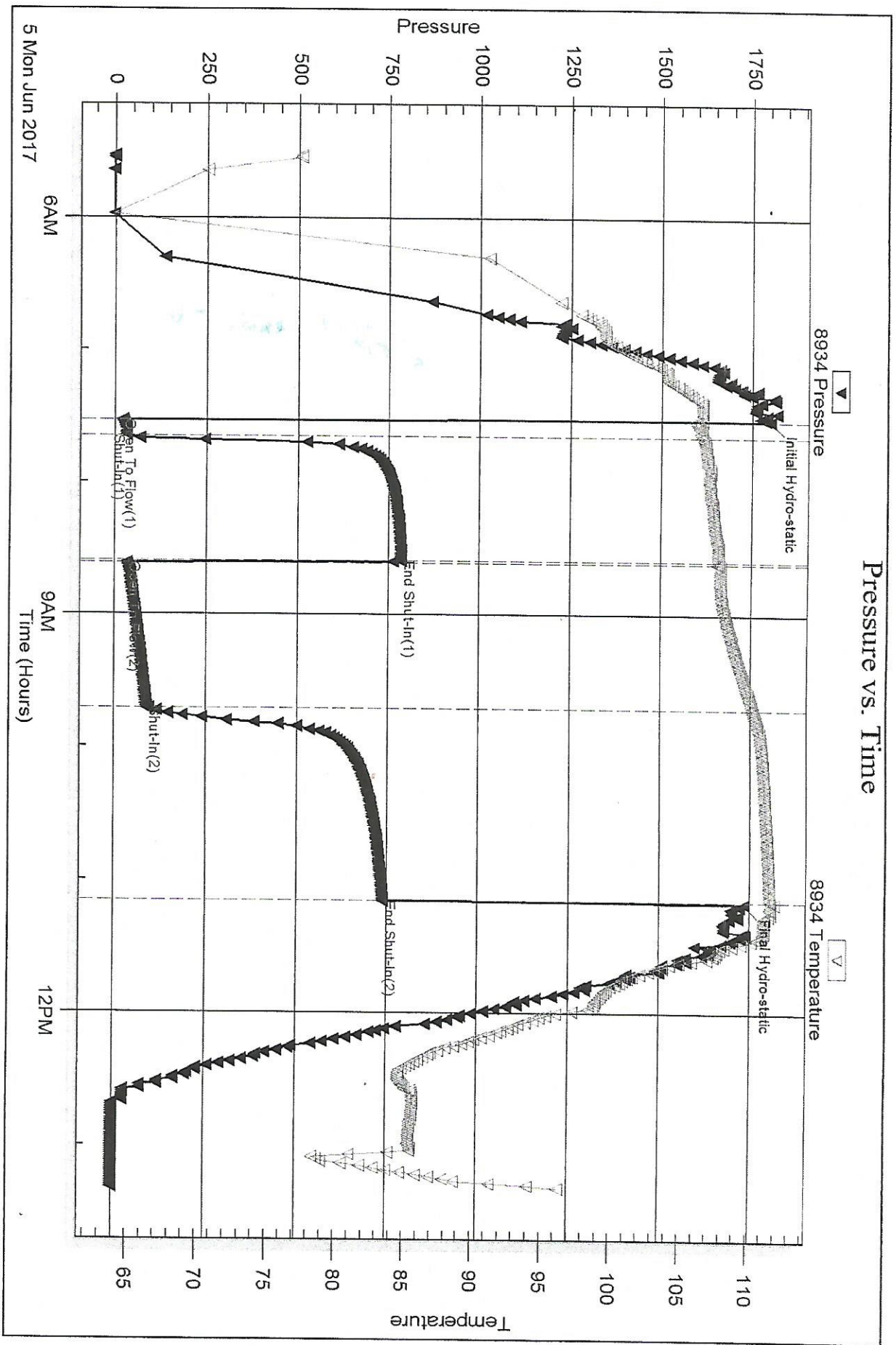
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	MCW w /scum oil 30%M 70%W	0.441
120.00	GWCM w /scum oil 10%G 40%W 50%M	0.882
40.00	OCM 8%O 92%M	0.294
20.00	MCO 5%M 95%O	0.147
0.00	30' GIP	0.000

Total Length: 240.00 ft Total Volume: 1.764 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: 2#LCM
 RW=.085@92 degrees

Pressure vs. Time



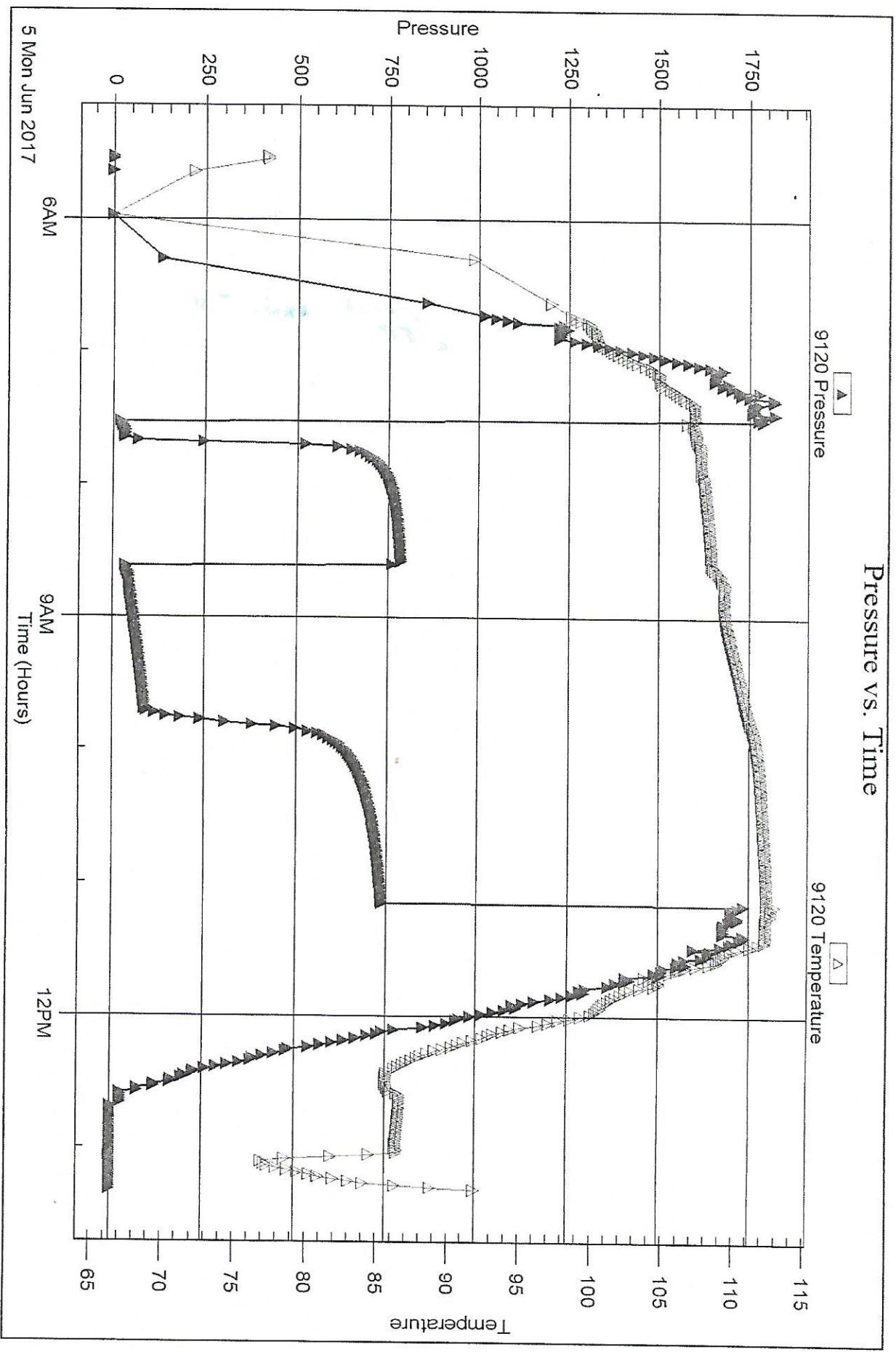
Serial #: 9120

Inside

Staab Oil Company

Todd Hixon Road #1

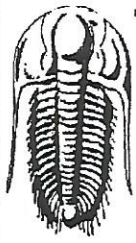
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 63219

Printed: 2017.06.08 @ 17:06:04



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Staab Oil Company

9-12W-21S Trego, KS

1607 Hopewell Rd
Hays KS 67601+9443

Todd Hixon Road #1

Job Ticket: 63220

DST#: 2

ATTN: Janel Staab

Test Start: 2017.06.06 @ 00:36:00

Tool Information

Drill Pipe:	Length: 3171.00 ft	Diameter: 3.80 inches	Volume: 44.48 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 466.00 ft	Diameter: 2.75 inches	Volume: 3.42 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 71000.00 lb
			Total Volume: 47.90 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3661.00 ft			Final 69000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	92.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3634.00	
Shut In Tool	5.00			3639.00	
Hydraulic tool	5.00			3644.00	
Jars	5.00			3649.00	
Safety Joint	3.00			3652.00	
Packer	5.00			3657.00	28.00 Bottom Of Top Packer
Packer	4.00			3661.00	
Stubb	1.00			3662.00	
Perforations	2.00			3664.00	
Change Over Sub	1.00			3665.00	
Recorder	0.00	9120	Inside	3665.00	
Recorder	0.00	8934	Inside	3665.00	
Drill Pipe	32.00			3697.00	
Change Over Sub	1.00			3698.00	
Perforations	22.00			3720.00	
Bullnose	5.00			3725.00	64.00 Bottom Packers & Anchor
Total Tool Length:	92.00				



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Staab Oil Company
1607 Hopewell Rd
Hays KS 67601+9443
ATTN: Janel Staab

9-12W-21S Trego, KS
Todd Hixon Road #1
Job Ticket: 63220 DST#: 2
Test Start: 2017.06.06 @ 00:36:00

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:	13000 ppm
Viscosity: 58.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.39 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4500.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	OWCM 20%O 20%W 60%M	0.220
20.00	OCM 5%O 95%M	0.147
60.00	OCM 2%O 98%M	0.441

Total Length: 110.00 ft Total Volume: 0.808 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: 2#LCM
 RW=.623@55degrees

Serial #: 8934

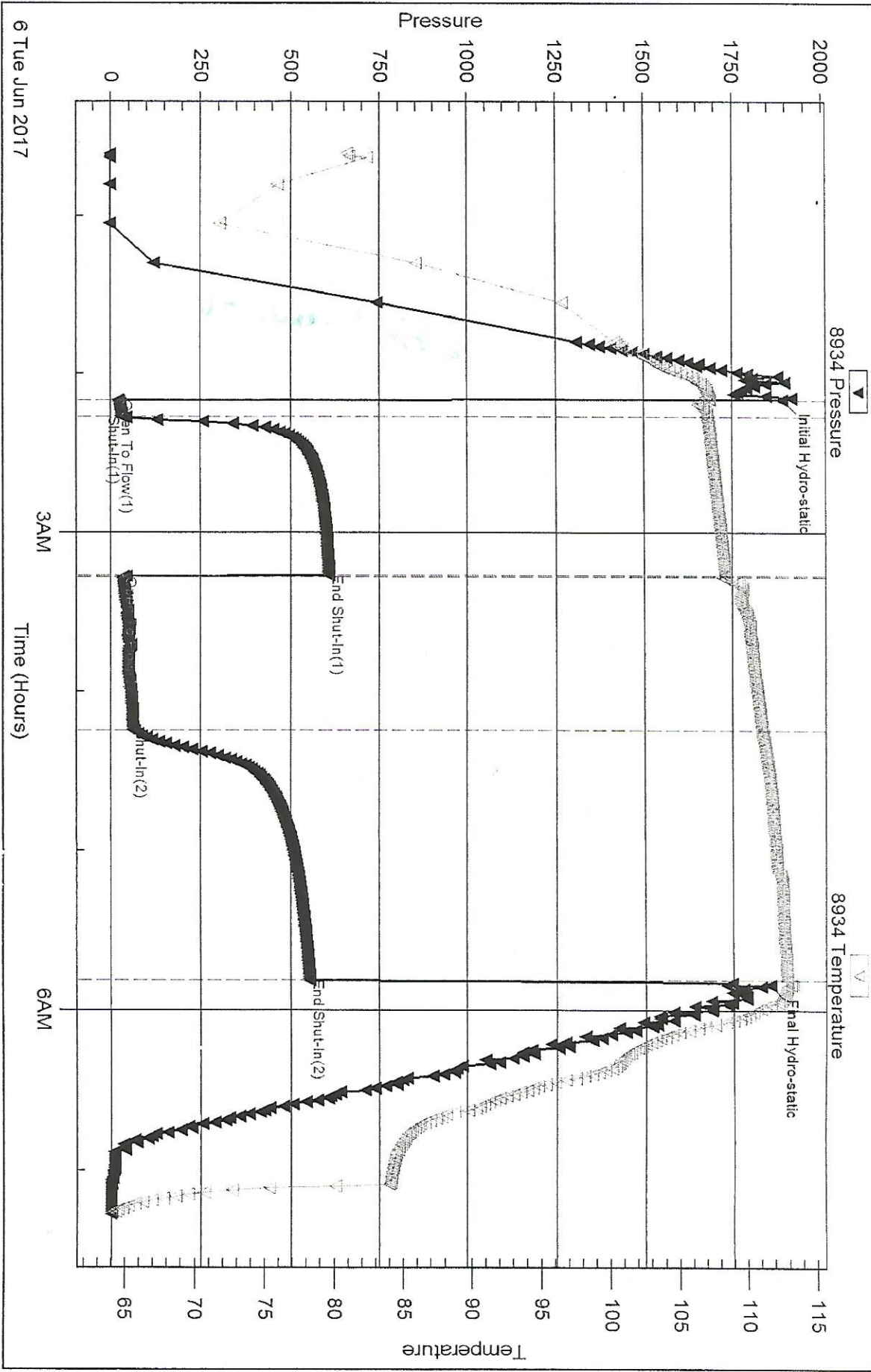
Inside

Staab Oil Company

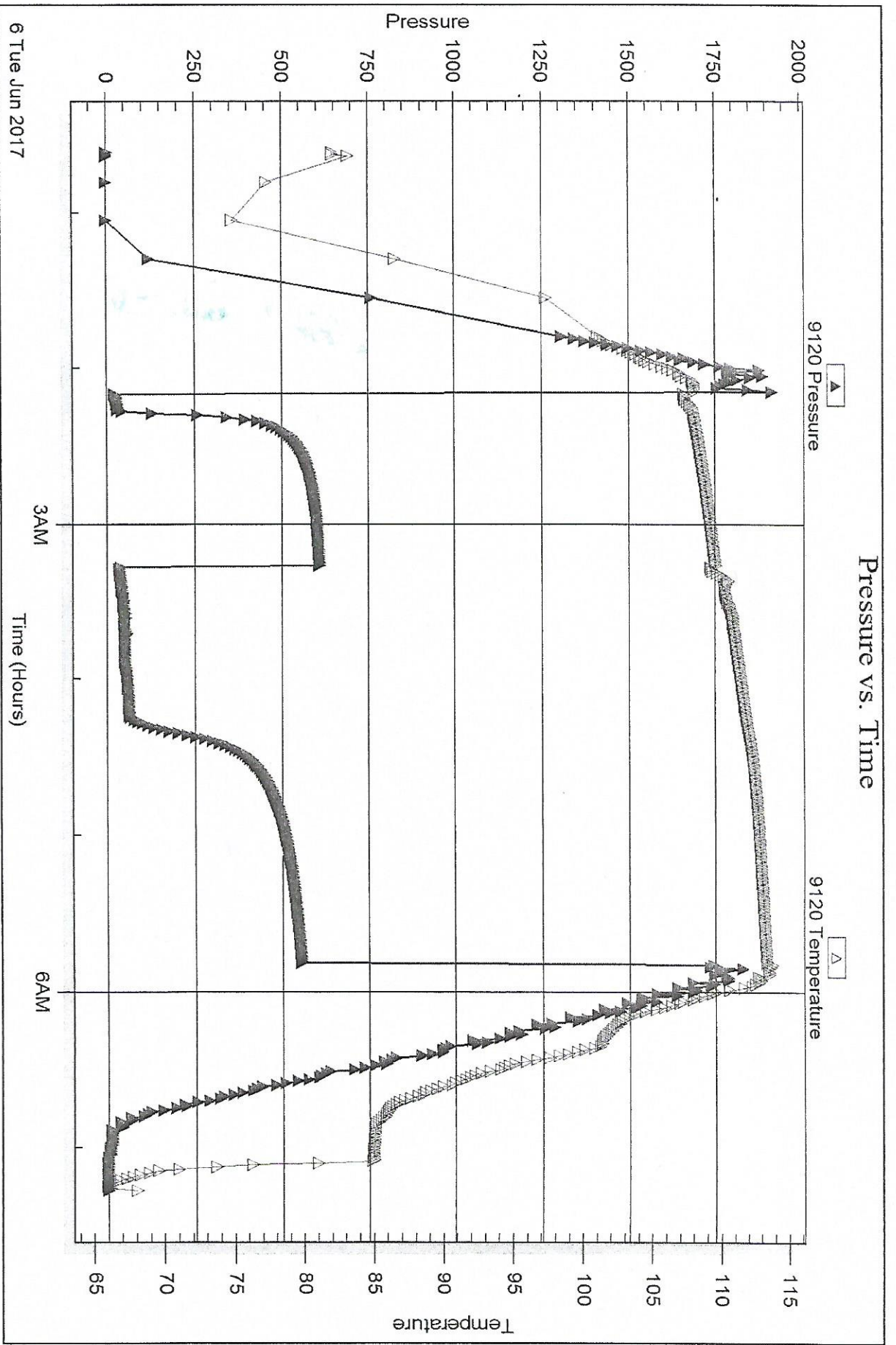
Todd Hix on Road #1

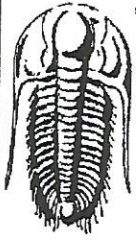
DST Test Number: 2

Pressure vs. Time



Pressure vs. Time





TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Staab Oil Company
 1607 Hopewell Rd
 Hays KS 67601-9443
 ATTN: Janel Staab

9-12W-21S Trego, KS
 Todd Hixon Road #1
 Job Ticket: 63221 DST#: 3
 Test Start: 2017.06.06 @ 23:23:00

GENERAL INFORMATION:

Formation: **LKC "J&K"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened:
 Time Test Ended: 02:48:30
 Interval: **3787.00 ft (KB) To 3845.00 ft (KB) (TVD)**
 Total Depth: 3845.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)
 Tester: Spencer J. Staab
 Unit No: 71

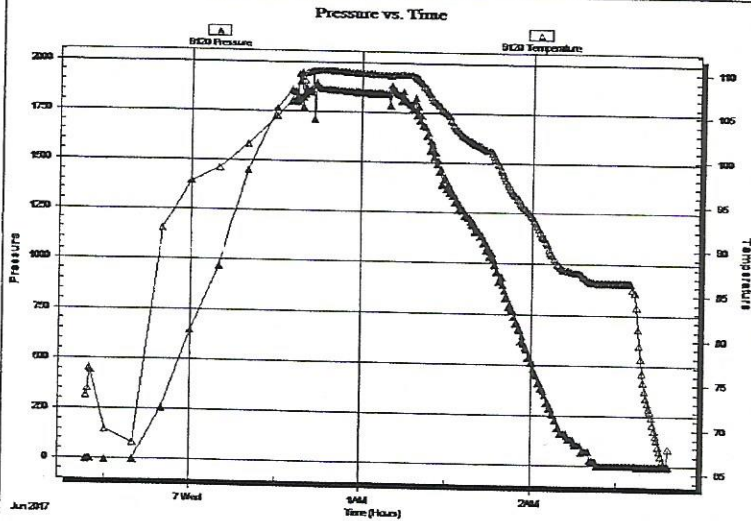
Reference Elevations: 2332.00 ft (KB)
 2327.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 9120

Inside

Press@RunDepth: psig @ 3791.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2017.06.06 End Date: 2017.06.07	Last Calib.: 2017.06.07
Start Time: 23:23:15 End Time: 02:48:30	Time On Btm:
	Time Off Btm:

TEST COMMENT: Misrun-Packer Failure



PRESSURE SUMMARY

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

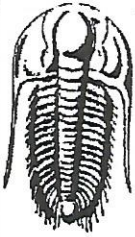
Recovery

Length (ft)	Description	Volume (bbl)
345.00	Mud 100%M	2.53

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAG

Staab Oil Company
1607 Hopewell Rd
Hays KS 67601+9443
ATTN: Janel Staab

9-12W-21S Trego, KS

Todd Hixon Road #1

Job Ticket: 63221

DST#: 3

Test Start: 2017.06.06 @ 23:23:00

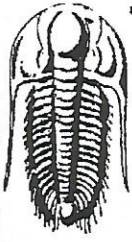
Tool Information

Drill Pipe:	Length: 3310.00 ft	Diameter: 3.80 inches	Volume: 46.43 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 466.00 ft	Diameter: 2.75 inches	Volume: 3.42 bbl	Weight set on Packer:	lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	lb
			<u>Total Volume: 49.85 bbl</u>	Tool Chased:	ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	lb
Depth to Top Packer:	3787.00 ft			Final	lb
Depth to Bottom Packer:	ft				
Interval between Packers:	58.00 ft				
Tool Length:	78.00 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			3768.00	
Shut In Tool	5.00			3773.00	
Hydraulic tool	5.00			3778.00	
Packer	5.00			3783.00	20.00 Bottom Of Top Pack
Packer	4.00			3787.00	
Stubb	1.00			3788.00	
Perforations	2.00			3790.00	
Change Over Sub	1.00			3791.00	
Recorder	0.00	9120	Inside	3791.00	
Recorder	0.00	8934	Inside	3791.00	
Drill Pipe	32.00			3823.00	
Change Over Sub	1.00			3824.00	
Perforations	16.00			3840.00	
Bullnose	5.00			3845.00	58.00 Bottom Packers & Ancho
Total Tool Length:	78.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Staab Oil Company
1607 Hopewell Rd
Hays KS 67601+9443
ATTN: Janel Staab

9-12W-21S Trego, KS
Todd Hixon Road #1
Job Ticket: 63221 DST#: 3
Test Start: 2017.06.06 @ 23:23:00

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: bbl		
Water Loss: 6.39 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4500.00 ppm			
Filter Cake: inches			

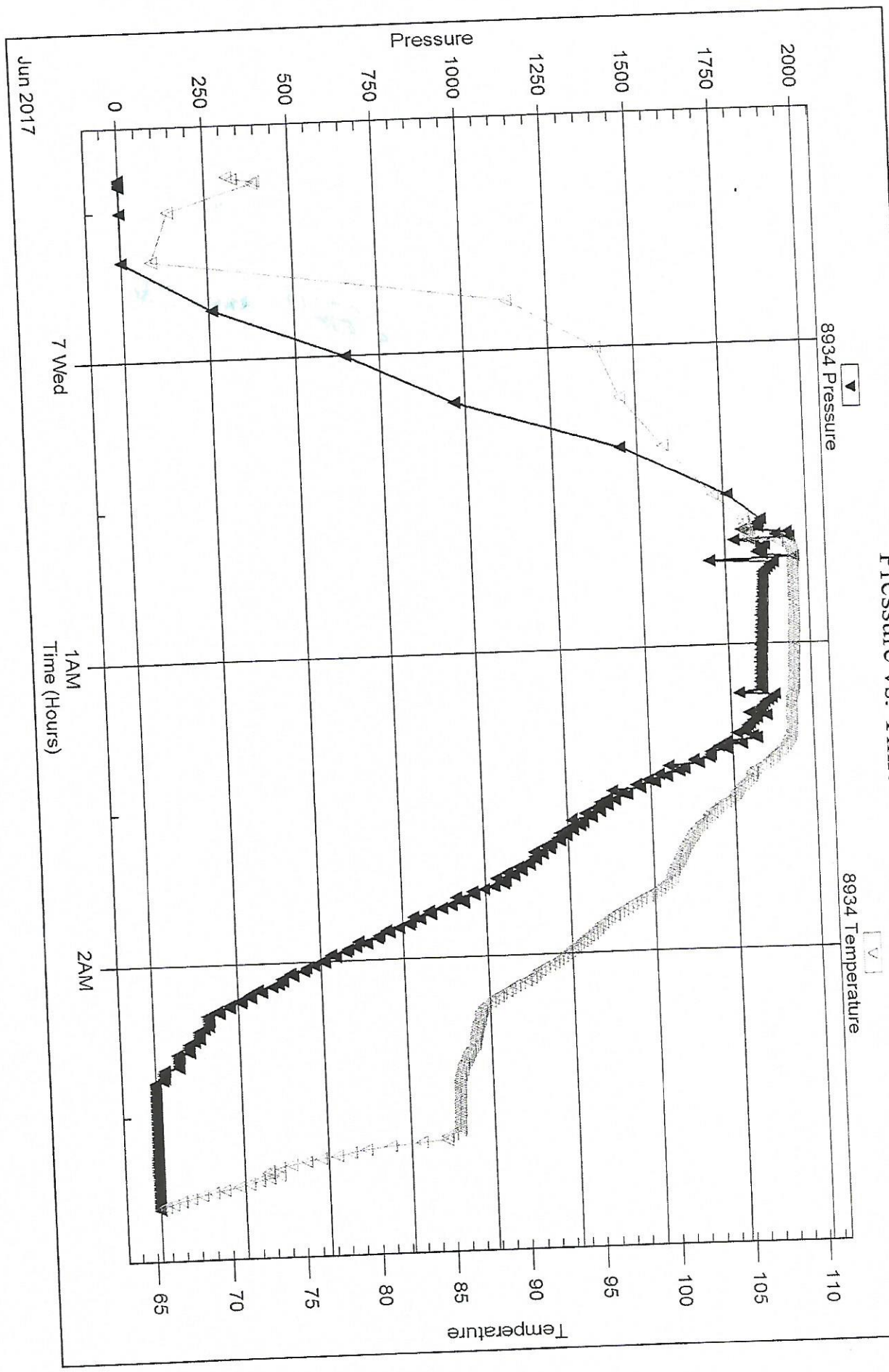
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
345.00	Mud 100%M	2.535

Total Length: 345.00 ft Total Volume: 2.535 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: 2#LCM

Pressure vs. Time



Serial #: 9120

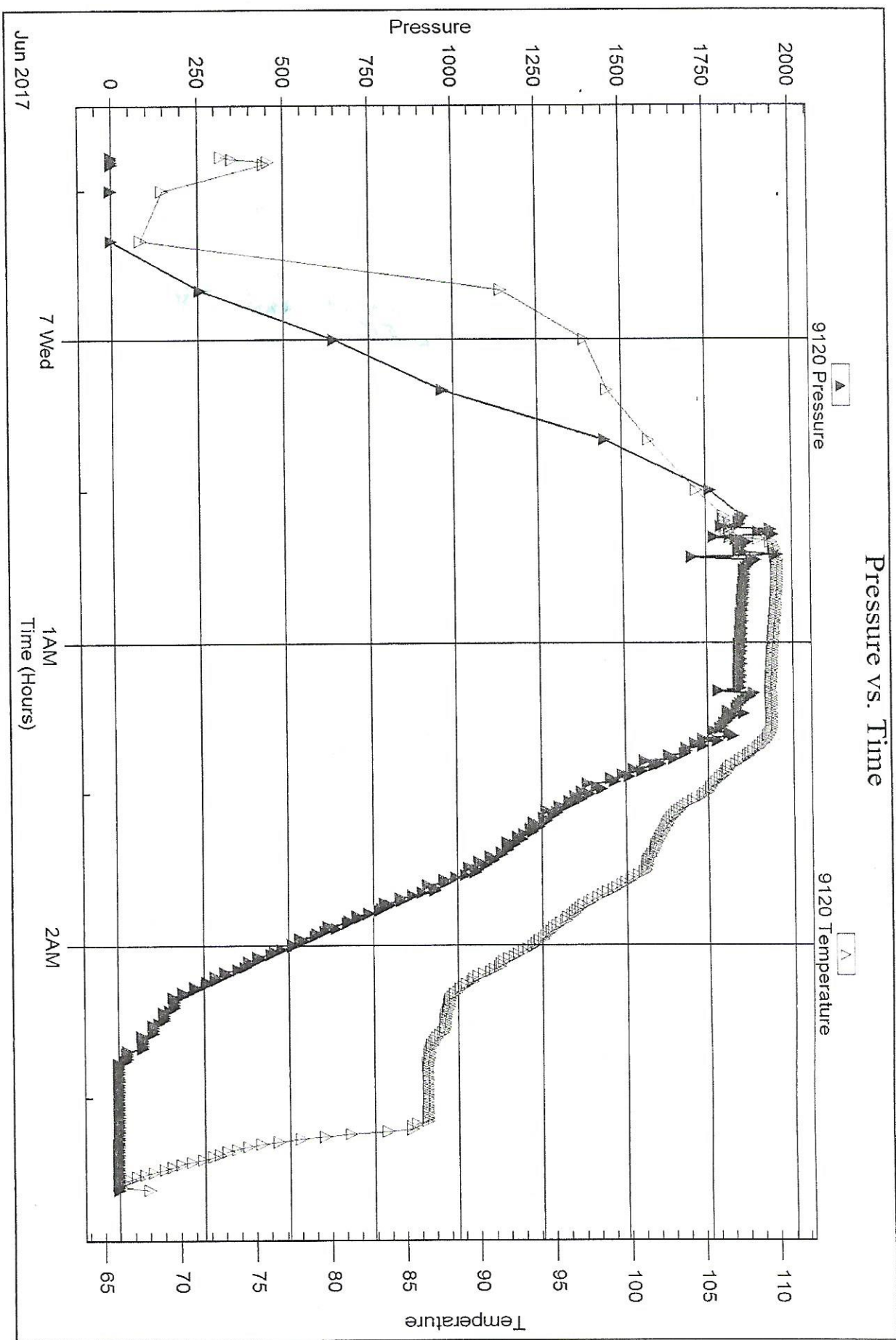
Inside

Staab Oil Company

Todd Hixon Road #1

DST Test Number: 3

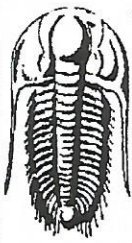
Pressure vs. Time



Triobite Testing, Inc

Ref. No: 63221

Printed: 2017.06.08 @ 17:04:39



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Staab Oil Company
 1607 Hopewell Rd
 Hays KS 67601+9443
 ATTN: Janel Staab

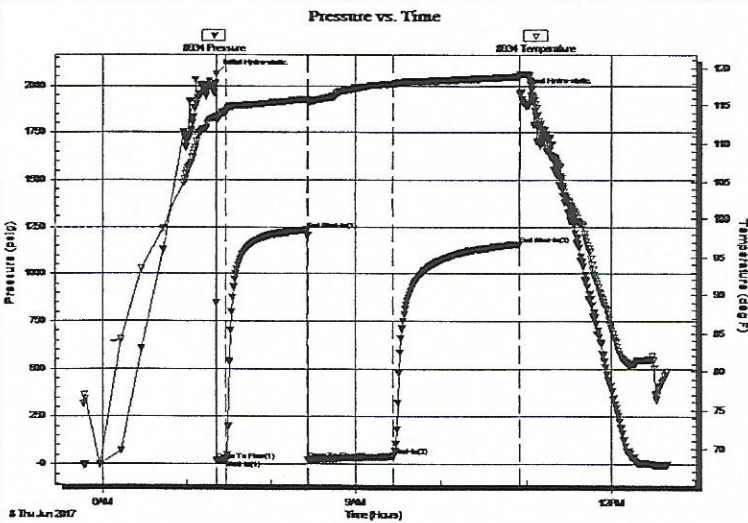
9-12W-21S Trego, KS
Todd Hixon Road #1
 Job Ticket: 63222 DST#: 4
 Test Start: 2017.06.08 @ 05:46:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:21:30
 Time Test Ended: 12:40:30
 Interval: **4023.00 ft (KB) To 4047.00 ft (KB) (TVD)**
 Total Depth: 4110.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Reset)
 Tester: Spencer J. Staab
 Unit No: 71
 Reference Elevations: 2332.00 ft (KB)
 2327.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8934 Outside
 Press@RunDepth: 42.38 psig @ 4024.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.06.08 End Date: 2017.06.08 Last Calib.: 2017.06.08
 Start Time: 05:46:15 End Time: 12:40:30 Time On Btm: 2017.06.08 @ 07:21:00
 Time Off Btm: 2017.06.08 @ 10:56:00

TEST COMMENT: 5-IF-Weak Blow ; Built from surface to 1 7/8"
 60-ISI-No Blow Back
 60-FF-Weak Blow ; Built from surface to 4 1/4"
 90-FSI-No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2062.84	113.63	Initial Hydro-static
1	18.31	112.99	Open To Flow (1)
7	21.25	114.17	Shut-In(1)
65	1234.48	115.88	End Shut-In(1)
65	23.38	115.31	Open To Flow (2)
125	42.38	117.87	Shut-In(2)
214	1158.98	118.85	End Shut-In(2)
215	1964.01	119.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	OCM 10%O 90%M	0.15
20.00	OCM 20%O 80%M	0.15
40.00	Clean Oil	0.29

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Staab Oil Company

1607 Hopewell Rd
Hays KS 67601+9443

ATTN: Janel Staab

9-12W-21S Trego,KS

Todd Hixon Road #1

Job Ticket: 63222

DST#: 4

Test Start: 2017.06.08 @ 05:46:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:21:30

Time Test Ended: 12:40:30

Test Type: Conventional Straddle (Reset)

Tester: Spencer J. Staab

Unit No: 71

Interval: **4023.00 ft (KB) To 4047.00 ft (KB) (TVD)**

Total Depth: 4110.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2332.00 ft (KB)

2327.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: **9120**

Inside

Press@RunDepth: psig @ 4024.00 ft (KB)

Start Date: 2017.06.08

End Date: 2017.06.08

Start Time: 05:46:15

End Time: 12:40:30

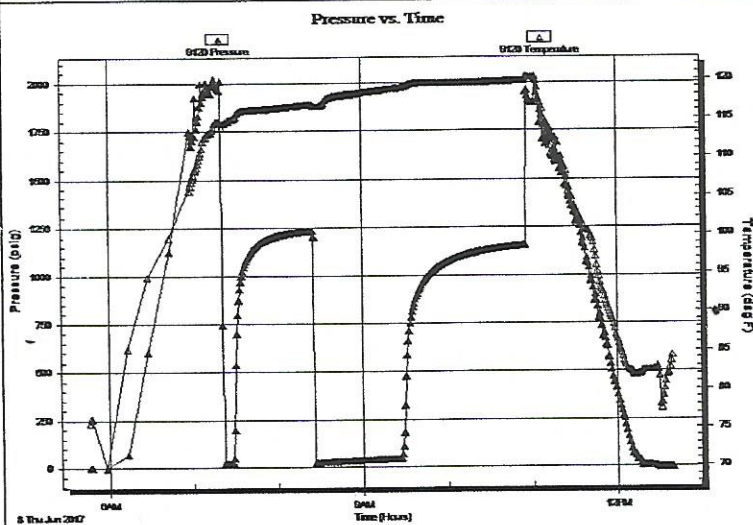
Capacity: 8000.00 psig

Last Calib.: 2017.06.08

Time On Btm:

Time Off Btm:

TEST COMMENT: 5-IF-Weak Blow ; Built from surface to 1 7/8"
60-ISI-No Blow Back
60-FF-Weak Blow ; Built from surface to 4 1/4"
90-FSI-No Blow Back



PRESSURE SUMMARY

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

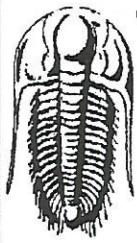
Recovery

Length (ft)	Description	Volume (bbl)
20.00	OCM 10%O 90%M	0.15
20.00	OCM 20%O 80%M	0.15
40.00	Clean Oil	0.29

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Staab Oil Company
1607 Hopewell Rd
Hays KS 67601+9443
ATTN: Janel Staab

9-12W-21S Trego, KS

Todd Hixon Road #1

Job Ticket: 63222

DST#: 4

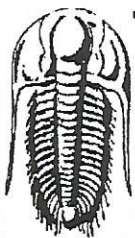
Test Start: 2017.06.08 @ 05:46:00

Tool Information

Drill Pipe:	Length: 3626.00 ft	Diameter: 3.80 inches	Volume: 50.86 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 403.00 ft	Diameter: 2.75 inches	Volume: 2.96 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 53.82 bbl</u>	Tool Chased: ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4023.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	4047.00 ft			
Interval between Packers:	24.00 ft			
Tool Length:	109.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4004.00	
Shut In Tool	5.00			4009.00	
Hydraulic tool	5.00			4014.00	
Packer	5.00			4019.00	20.00 Bottom Of Top Packer
Packer	4.00			4023.00	
Stubb	1.00			4024.00	
Recorder	0.00	9120	Inside	4024.00	
Recorder	0.00	8934	Outside	4024.00	
Perforations	19.00			4043.00	
Blank Off Sub	1.00			4044.00	
top of s.packer	3.00			4047.00	24.00 Tool Interval
Packer	0.00			4047.00	
Stubb	1.00			4048.00	
Change Over Sub	1.00			4049.00	
Recorder	0.00	8368	Below	4049.00	
Drill Pipe	63.00			4112.00	65.00 Bottom Packers & Anchor
Total Tool Length:	109.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Staab Oil Company
1607 Hopewell Rd
Hays KS 67601+9443
ATTN: Janel Staab

9-12W-21S Trego, KS
Todd Hixon Road #1
Job Ticket: 63222 DST#: 4
Test Start: 2017.06.08 @ 05:46:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 32 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 56.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.59 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 4500.00 ppm		
Filter Cake: inches		

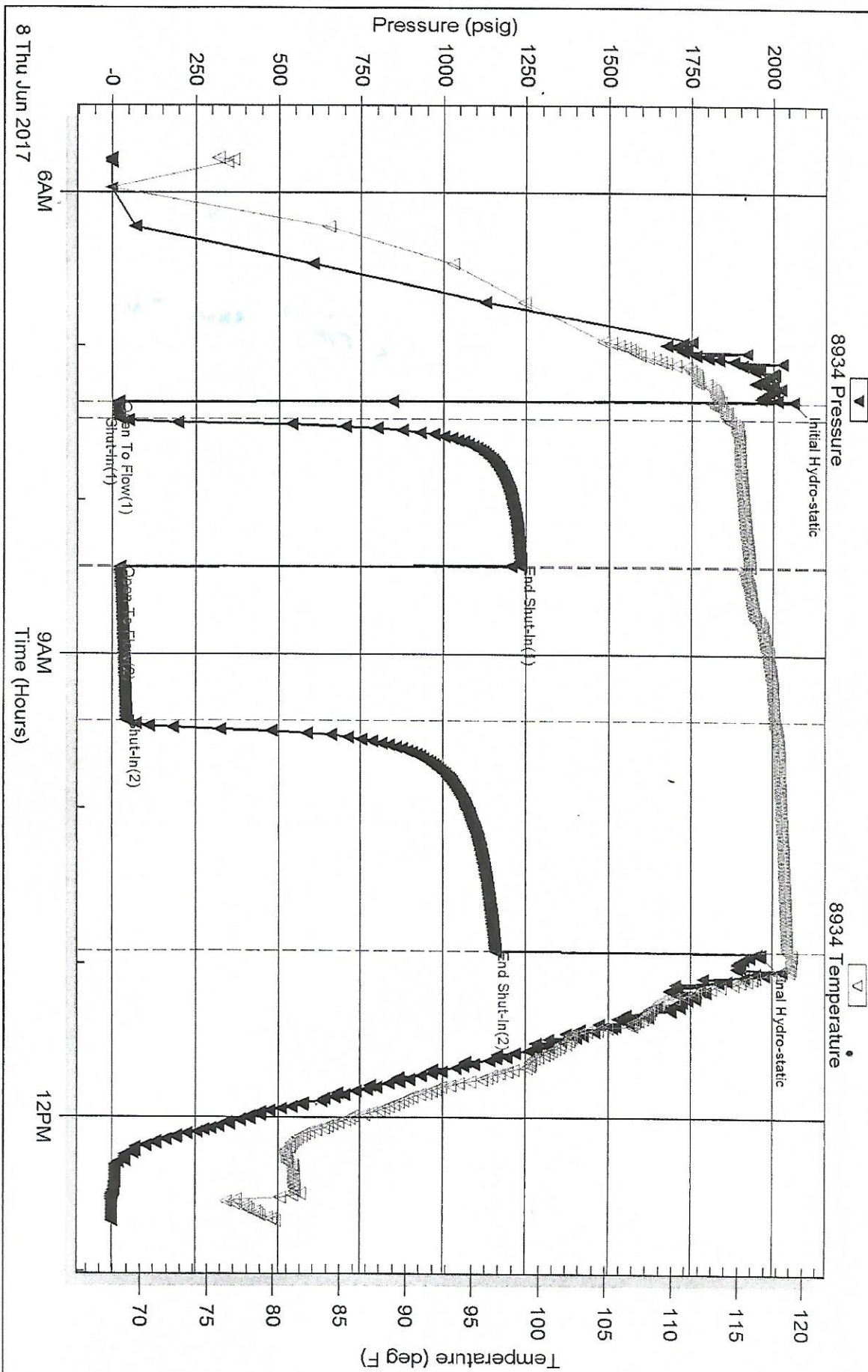
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	OCM 10%O 90%M	0.147
20.00	OCM 20%O 80%M	0.147
40.00	Clean Oil	0.294

Total Length: 80.00 ft Total Volume: 0.588 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: 2# LCM

Pressure vs. Time



Serial #: 9120

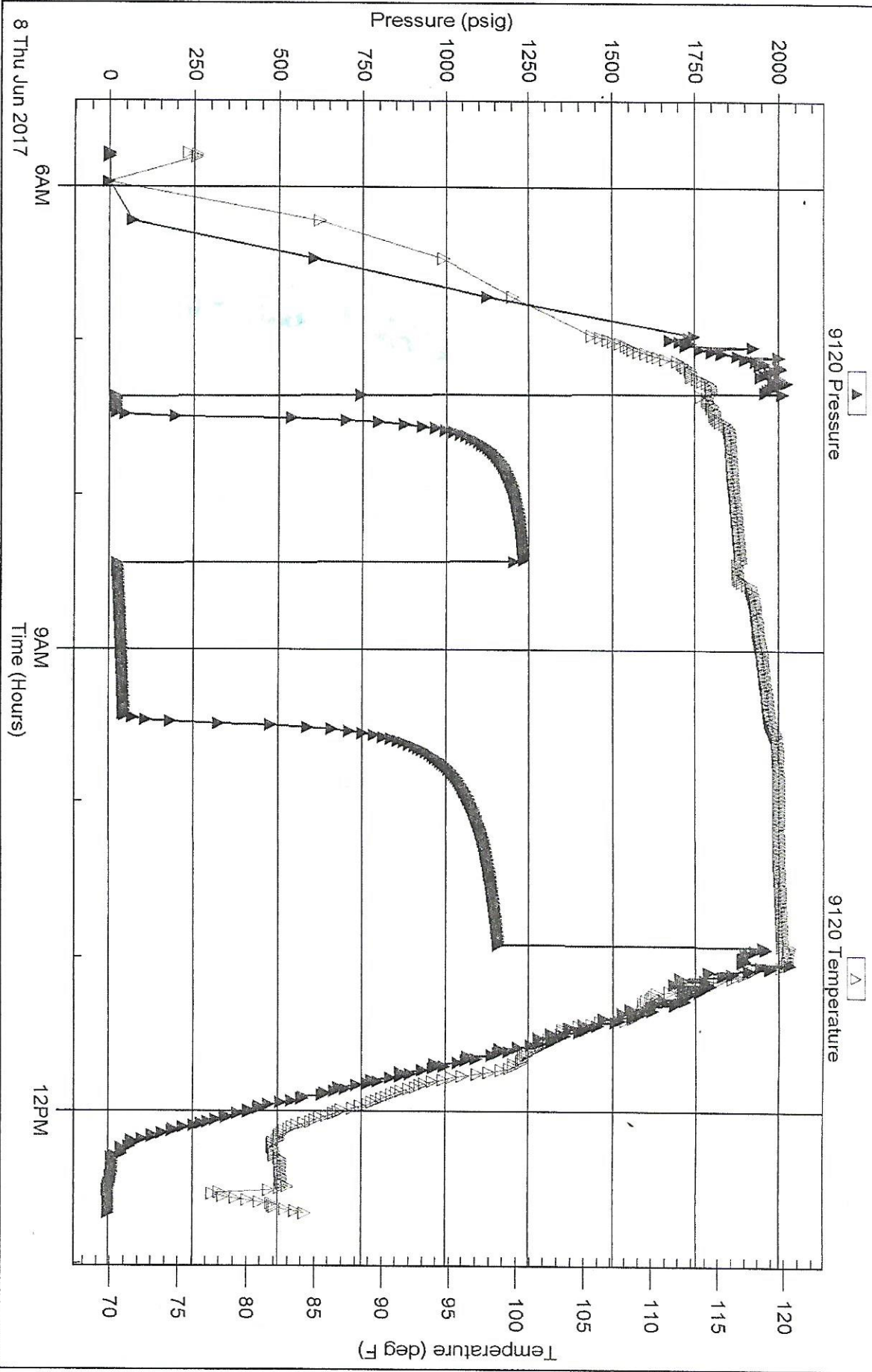
Inside

Staab Oil Company

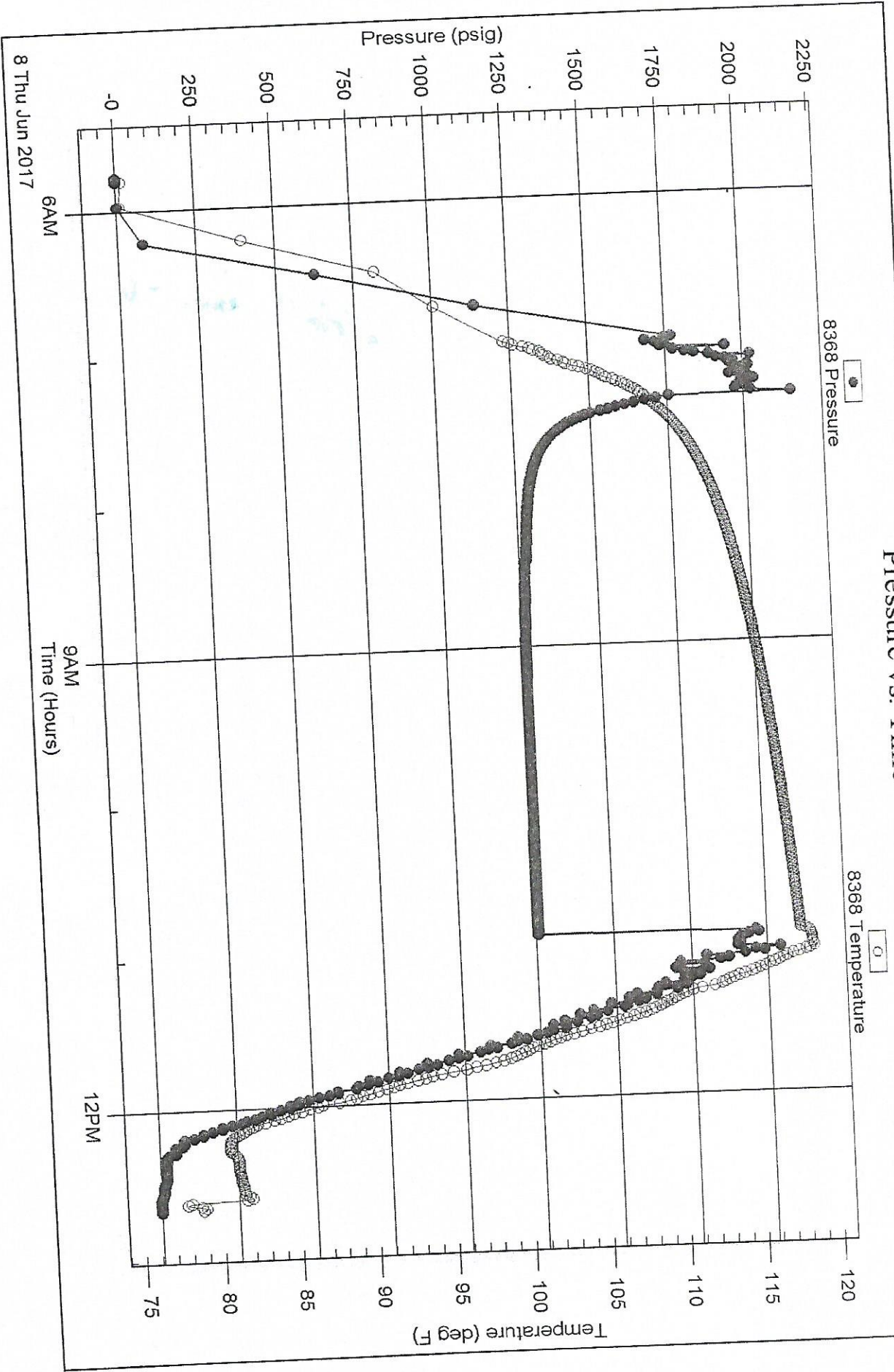
Todd Hixon Road #1

DST Test Number: 4

Pressure vs. Time



Pressure vs. Time



Trilobe Testing, Inc

Ref. No: 63222

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