



DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Rd.
Hays, KS 67601

ATTN: Herb Deines

Matlock #1

26-13S-19W Ellis,KS

Start Date: 2019.06.10 @ 03:01:13

End Date: 2019.06.10 @ 10:14:19

Job Ticket #: 65692 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.06.13 @ 08:58:10

TDI, Inc.
26-13S-19W Ellis,KS
Matlock #1
DST # 1
LKC "A-D"
2019.06.10



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TDI, Inc.
1310 Bison Rd.
Hays, KS 67601
ATTN: Herb Deines

26-13S-19W Ellis,KS
Matlock #1
Job Ticket: 65692 **DST#: 1**
Test Start: 2019.06.10 @ 03:01:13

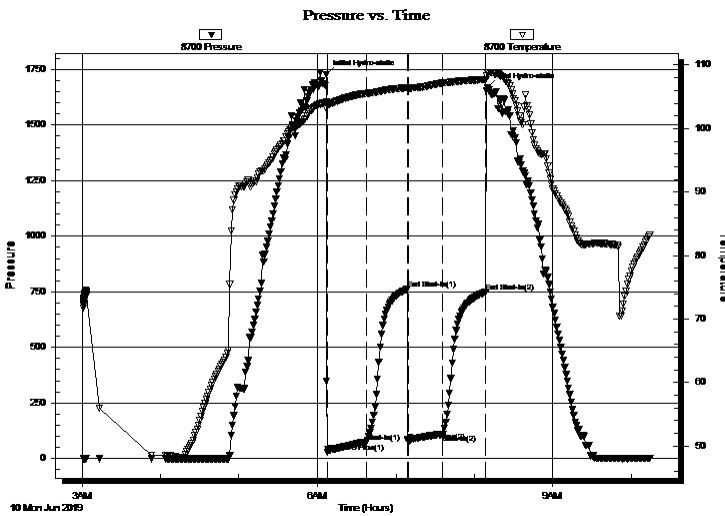
GENERAL INFORMATION:

Formation: **LKC "A-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:07:34
Time Test Ended: 10:14:19
Interval: **3464.00 ft (KB) To 3535.00 ft (KB) (TVD)**
Total Depth: 3535.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Poor
Reference Elevations: 2172.00 ft (KB)
2163.00 ft (CF)
KB to GR/CF: 9.00 ft
Test Type: Conventional Bottom Hole (Initial)
Tester: Brannan Lonsdale
Unit No: 73

Serial #: 8700 Outside
Press@RunDepth: 110.41 psig @ 3465.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2019.06.10 End Date: 2019.06.10 Last Calib.: 2019.06.10
Start Time: 03:01:14 End Time: 10:14:19 Time On Btm: 2019.06.10 @ 06:06:49
Time Off Btm: 2019.06.10 @ 08:10:04

TEST COMMENT: 30- IF- BOB 6 mins. Built to 45.90"
30- IS- No blow
30- FF- BOB 3 mins. Built to 50.91"
30- FS- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1726.06	104.18	Initial Hydro-static
1	27.58	103.80	Open To Flow (1)
31	74.19	105.53	Shut-In(1)
62	762.11	106.42	End Shut-In(1)
63	75.99	106.35	Open To Flow (2)
89	110.41	107.17	Shut-In(2)
122	748.45	107.73	End Shut-In(2)
124	1666.27	108.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	GWSMCO, 20%G 65%O 10%W 5%M	1.77
95.00	GOCM, 20%G 10%O 70%M	1.35
0.00	725' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI, Inc.
1310 Bison Rd.
Hays, KS 67601
ATTN: Herb Deines

26-13S-19W Ellis,KS
Matlock #1
Job Ticket: 65692 **DST#: 1**
Test Start: 2019.06.10 @ 03:01:13

Tool Information

Drill Pipe:	Length: 3450.00 ft	Diameter: 3.82 inches	Volume: 48.91 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - 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:	52000.00 lb
			<u>Total Volume:</u> - bbl	Tool Chased	5.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	36000.00 lb
Depth to Top Packer:	3464.00 ft			Final	38000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	71.00 ft				
Tool Length:	91.00 ft				
Number of Packers:	2	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			3445.00	
Shut In Tool	5.00			3450.00	
Hydraulic tool	5.00			3455.00	
Packer	5.00			3460.00	20.00 Bottom Of Top Packer
Packer	4.00			3464.00	
Stubb	1.00			3465.00	
Recorder	0.00	6771	Inside	3465.00	
Recorder	0.00	8700	Outside	3465.00	
Perforations	3.00			3468.00	
Change Over Sub	1.00			3469.00	
Drill Pipe	62.00			3531.00	
Change Over Sub	1.00			3532.00	
Bullnose	3.00			3535.00	71.00 Bottom Packers & Anchor

Total Tool Length: 91.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI, Inc.
1310 Bison Rd.
Hays, KS 67601
ATTN: Herb Deines

26-13S-19W Ellis,KS
Matlock #1
Job Ticket: 65692 **DST#: 1**
Test Start: 2019.06.10 @ 03:01:13

Mud and Cushion Information

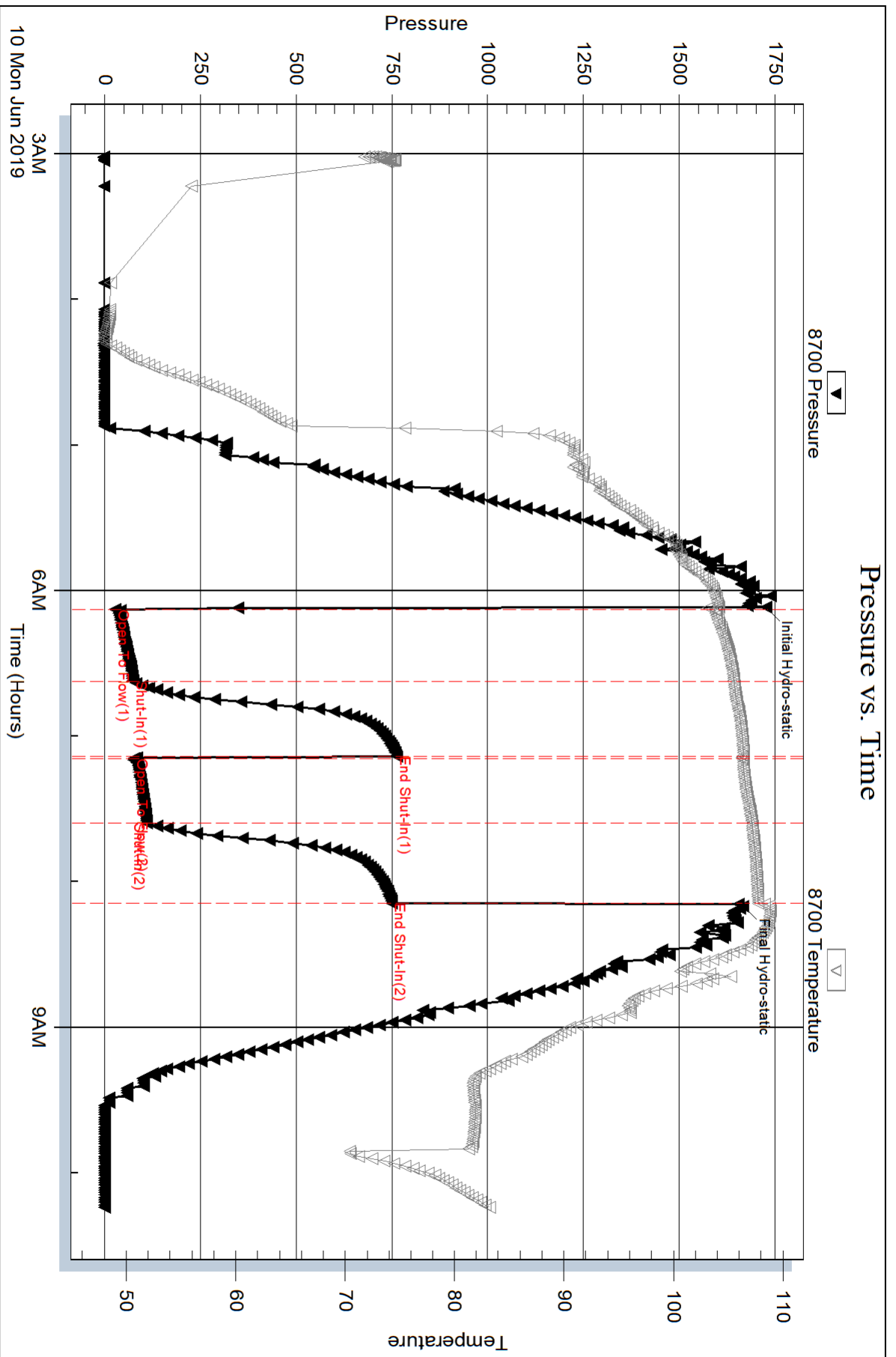
Mud Type: Gel Chem	Cushion Type:	Oil API: 29 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 22000 ppm
Viscosity: 45.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.98 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2700.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	GWSMCO, 20%G 65%O 10%W 5%M	1.772
95.00	GOCM, 20%G 10%O 70%M	1.347
0.00	725' GIP	0.000

Total Length: 220.00 ft Total Volume: 3.119 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW: .26@81deg



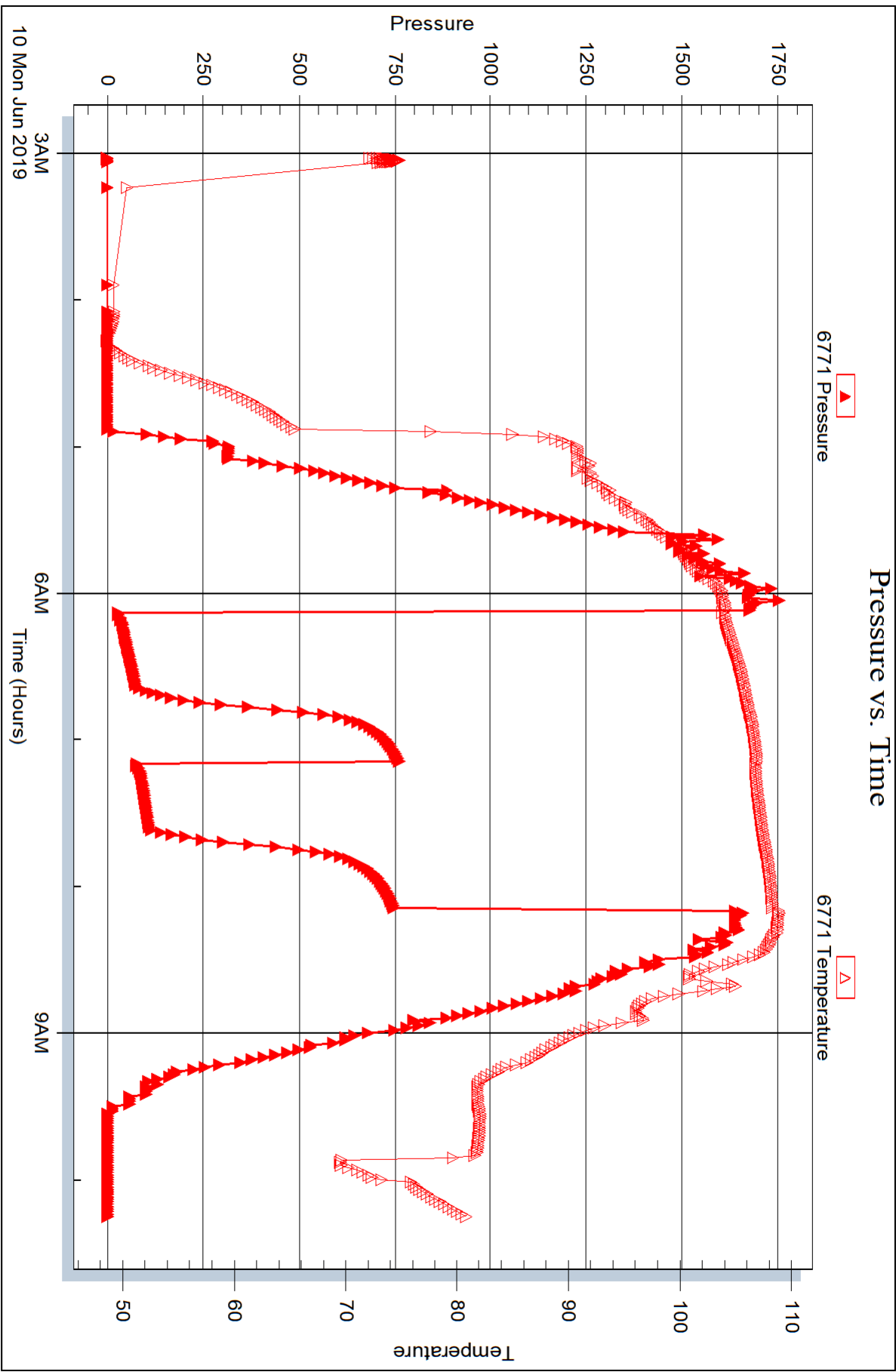
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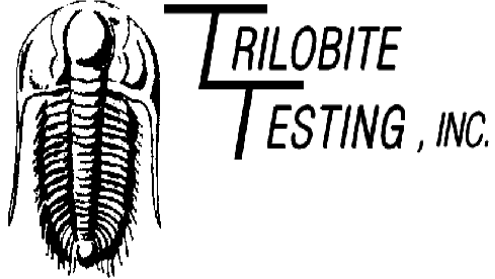
Inside

TDI, Inc.

Matlock #1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Rd.
Hays, KS 67601

ATTN: Herb Deines

Matlock #1

26-13S-19W Ellis,KS

Start Date: 2019.06.10 @ 17:53:25

End Date: 2019.06.11 @ 00:59:31

Job Ticket #: 65693 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.06.13 @ 08:57:45



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI, Inc.
1310 Bison Rd.
Hays, KS 67601
ATTN: Herb Deines

26-13S-19W Ellis, KS
Matlock #1
Job Ticket: 65693 **DST#: 2**
Test Start: 2019.06.10 @ 17:53:25

GENERAL INFORMATION:

Formation: **LKC "F - G"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:56:46
Time Test Ended: 00:59:31
Interval: **3534.00 ft (KB) To 3580.00 ft (KB) (TVD)**
Total Depth: 3580.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 2172.00 ft (KB)
2163.00 ft (CF)
KB to GR/CF: 9.00 ft
Test Type: Conventional Bottom Hole (Reset)
Tester: Brannan Lonsdale
Unit No: 73

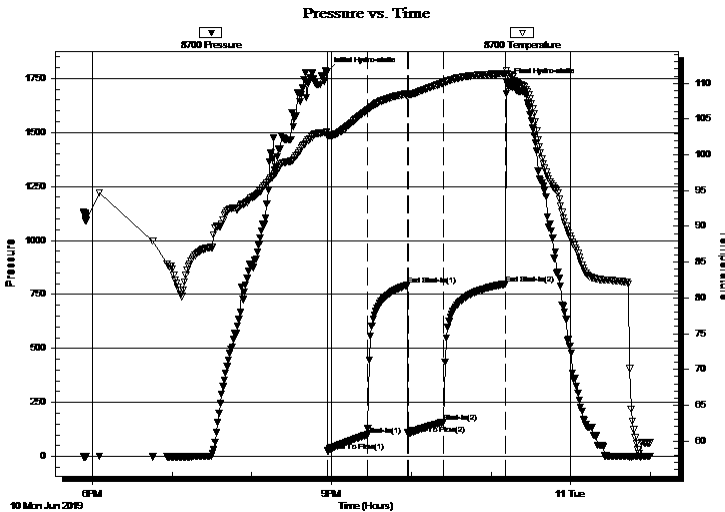
Serial #: 8700

Outside

Press@RunDepth: 159.09 psig @ 3535.00 ft (KB)
Start Date: 2019.06.10 End Date: 2019.06.11
Start Time: 17:53:26 End Time: 00:59:31
Capacity: 8000.00 psig
Last Calib.: 2019.06.11
Time On Btm: 2019.06.10 @ 20:56:31
Time Off Btm: 2019.06.10 @ 23:12:01

TEST COMMENT: 30- IF- BOB 13 mins. Built to 18.44"
30- IS- No blow
30- FF- BOB 21 mins. Built to 12.45"
30- FS- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1782.51	103.21	Initial Hydro-static
1	25.33	102.62	Open To Flow (1)
31	100.00	106.24	Shut-In(1)
61	793.30	108.54	End Shut-In(1)
61	104.52	108.43	Open To Flow (2)
88	159.09	110.08	Shut-In(2)
135	798.50	111.36	End Shut-In(2)
136	1729.38	111.37	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
190.00	MW, 20%M 80%W	2.69
110.00	WM, 15%W 85%M	1.56

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI, Inc.
1310 Bison Rd.
Hays, KS 67601
ATTN: Herb Deines

26-13S-19W Ellis,KS
Matlock #1
Job Ticket: 65693 **DST#: 2**
Test Start: 2019.06.10 @ 17:53:25

Tool Information

Drill Pipe:	Length: 3544.00 ft	Diameter: 3.82 inches	Volume: 50.24 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - 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:	42000.00 lb
			<u>Total Volume:</u> - bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	36000.00 lb
Depth to Top Packer:	3534.00 ft			Final	38000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	46.00 ft				
Tool Length:	66.00 ft				
Number of Packers:	2	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			3515.00	
Shut In Tool	5.00			3520.00	
Hydraulic tool	5.00			3525.00	
Packer	5.00			3530.00	20.00 Bottom Of Top Packer
Packer	4.00			3534.00	
Stubb	1.00			3535.00	
Recorder	0.00	6771	Inside	3535.00	
Recorder	0.00	8700	Outside	3535.00	
Perforations	9.00			3544.00	
Change Over Sub	1.00			3545.00	
Drill Pipe	31.00			3576.00	
Change Over Sub	1.00			3577.00	
Bullnose	3.00			3580.00	46.00 Bottom Packers & Anchor

Total Tool Length: 66.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

TDI, Inc.

26-13S-19W Ellis,KS

1310 Bison Rd.
Hays, KS 67601

Matlock #1

Job Ticket: 65693

DST#: 2

ATTN: Herb Deines

Test Start: 2019.06.10 @ 17:53:25

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:

82000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2900.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
190.00	MW, 20%M 80%W	2.693
110.00	WM, 15%W 85%M	1.559

Total Length: 300.00 ft

Total Volume: 4.252 bbl

Num Fluid Samples: 0

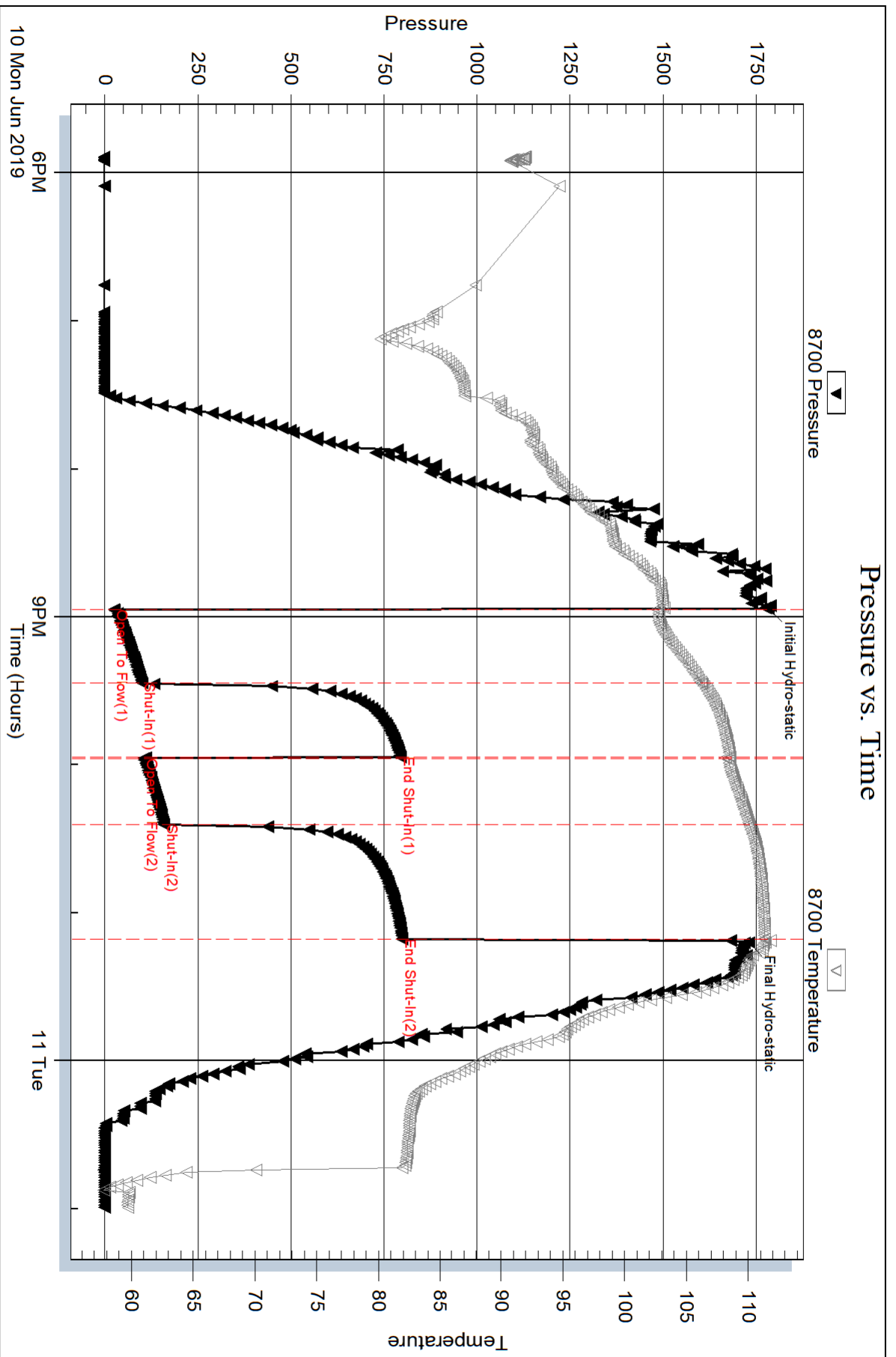
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



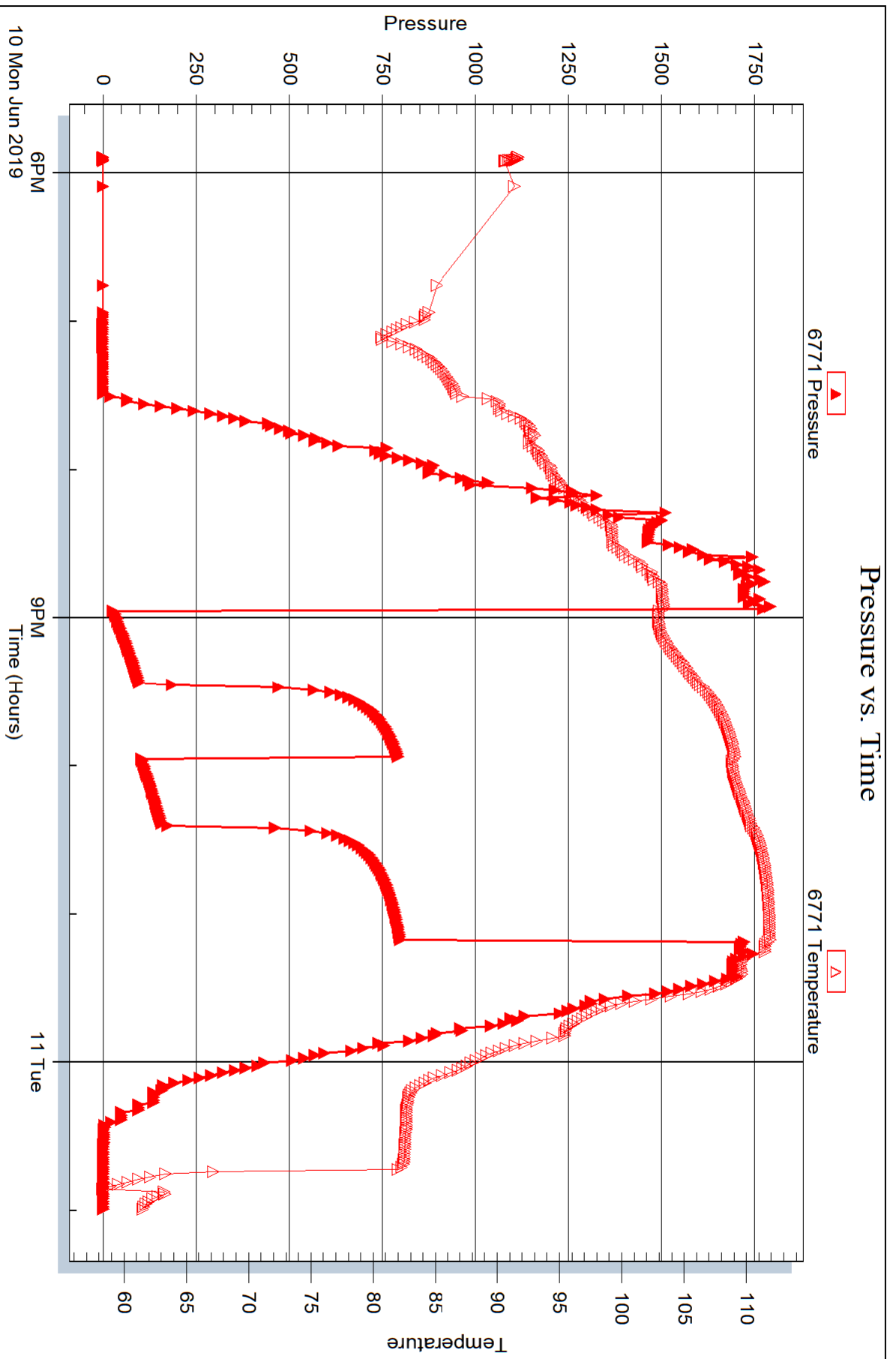
Serial #: 6771

Inside

TDI, Inc.

Matlock #1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 65693

Printed: 2019.06.13 @ 08:57:46



DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Rd.
Hays, KS 67601

ATTN: Herb Deines

Matlock #1

26-13S-19W Ellis,KS

Start Date: 2019.06.11 @ 11:00:55

End Date: 2019.06.11 @ 18:22:46

Job Ticket #: 65694 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.06.13 @ 08:57:19

TDI, Inc. 26-13S-19W Ellis,KS Matlock #1 DST # 3 LKC "J" 2019.06.11



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI, Inc.
1310 Bison Rd.
Hays, KS 67601
ATTN: Herb Deines

26-13S-19W Ellis,KS
Matlock #1
Job Ticket: 65694 **DST#: 3**
Test Start: 2019.06.11 @ 11:00:55

Tool Information

Drill Pipe:	Length: 3637.00 ft	Diameter: 3.82 inches	Volume: 51.56 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - 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: 45000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3638.00 ft			Final 39000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	42.00 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			3619.00	
Shut In Tool	5.00			3624.00	
Hydraulic tool	5.00			3629.00	
Packer	5.00			3634.00	20.00 Bottom Of Top Packer
Packer	4.00			3638.00	
Stubb	1.00			3639.00	
Recorder	0.00	6771	Inside	3639.00	
Recorder	0.00	8700	Outside	3639.00	
Perforations	18.00			3657.00	
Bullnose	3.00			3660.00	22.00 Bottom Packers & Anchor
Total Tool Length:	42.00				



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

TDI, Inc.
1310 Bison Rd.
Hays, KS 67601
ATTN: Herb Deines

26-13S-19W Ellis,KS
Matlock #1
Job Ticket: 65694 **DST#: 3**
Test Start: 2019.06.11 @ 11:00:55

Mud and Cushion Information

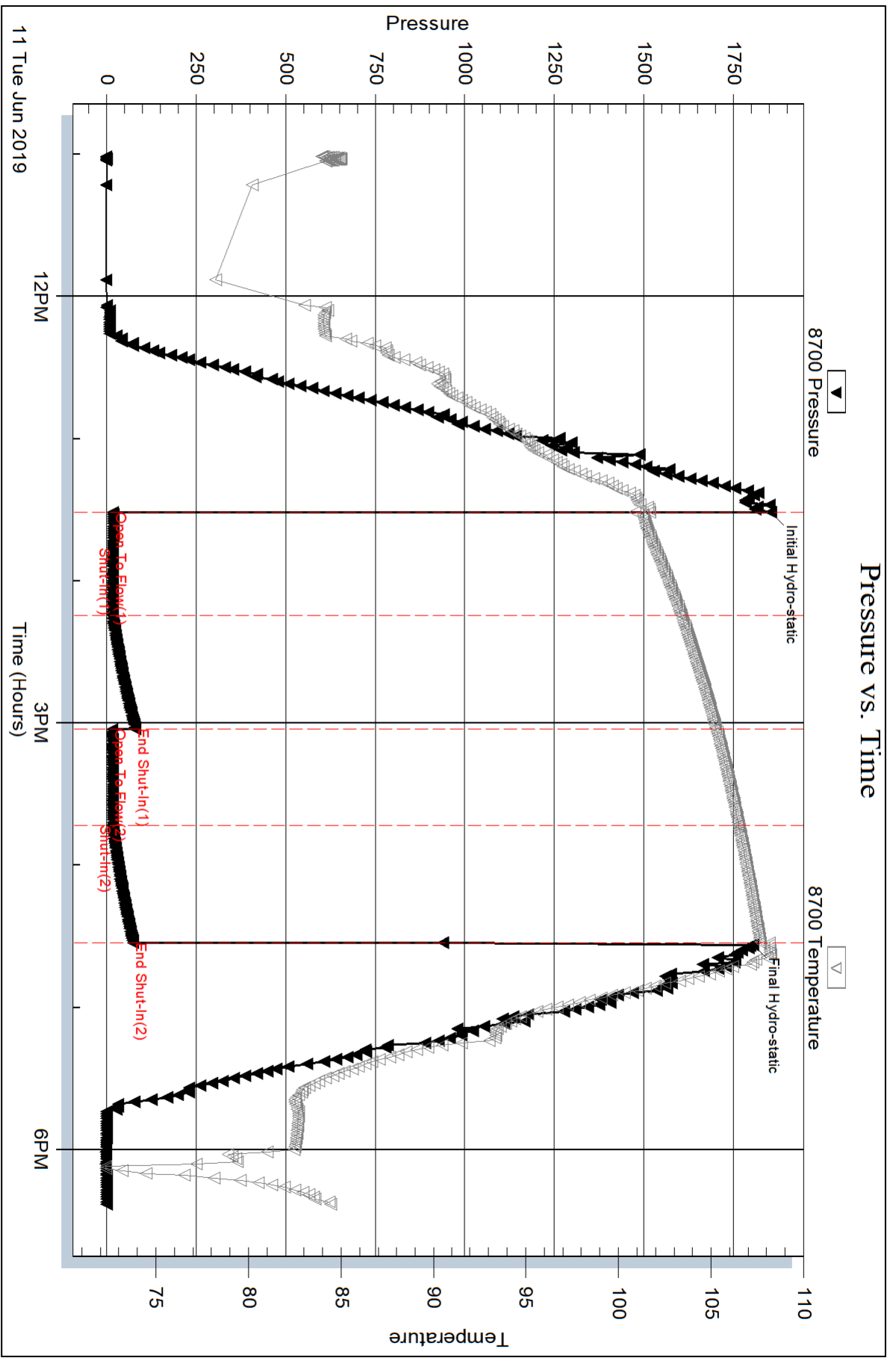
Mud Type: Gel Chem	Cushion Type:	Oil API: 30 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.79 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 3000.00 ppm		
Filter Cake: inches		

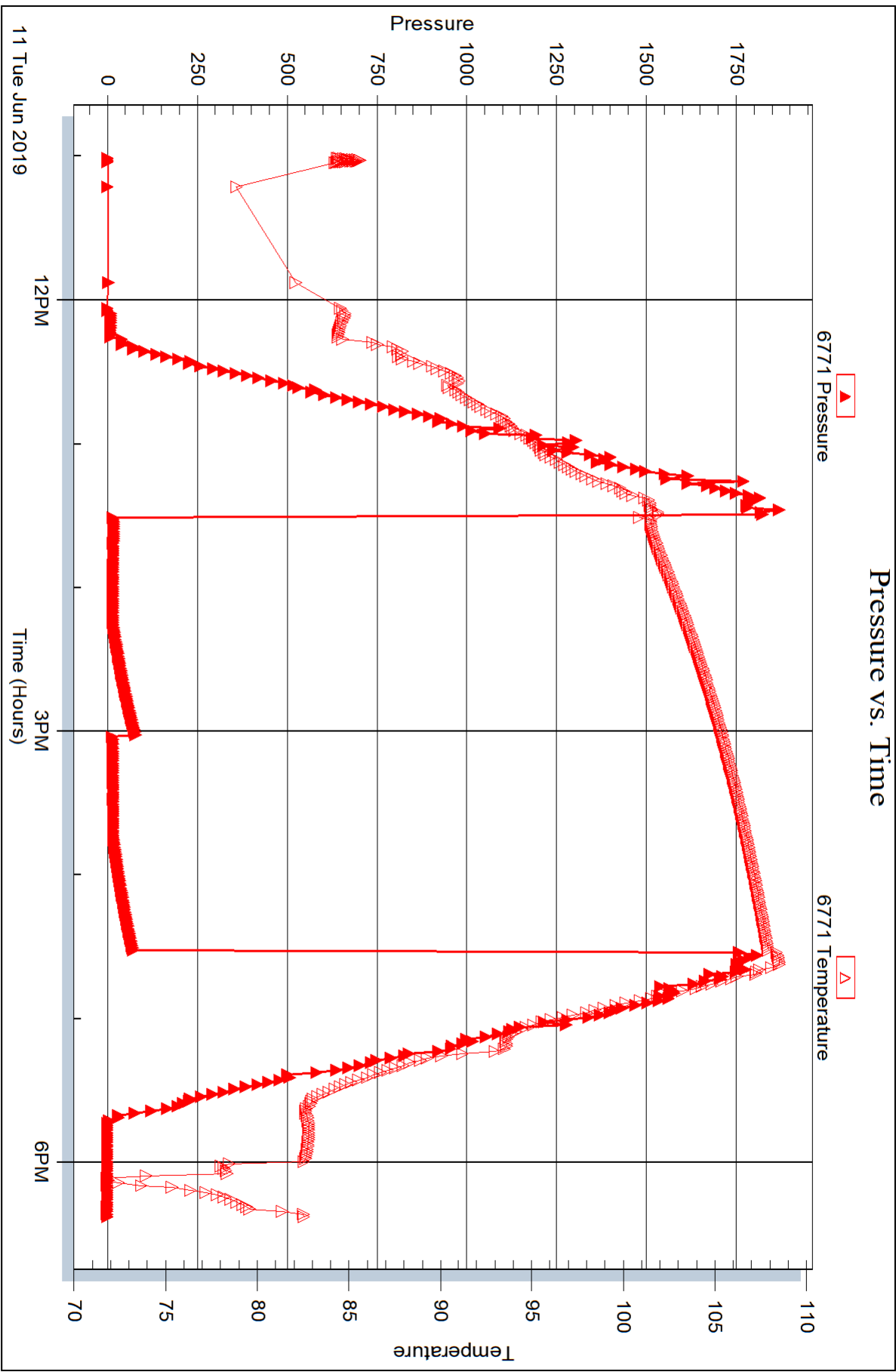
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	GHOCM, 15%G 25%O 60%M	0.425
0.00	30' GIP	0.000

Total Length: 30.00 ft Total Volume: 0.425 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Rd.
Hays, KS 67601

ATTN: Herb Deines

Matlock #1

26-13S-19W Ellis,KS

Start Date: 2019.06.12 @ 20:31:31

End Date: 2019.06.13 @ 03:02:07

Job Ticket #: 65695 DST #: 4

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.06.13 @ 08:56:50

TDI, Inc. 26-13S-19W Ellis,KS Matlock #1 DST # 4 LKC-"K" 2019.06.12



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI, Inc.
 1310 Bison Rd.
 Hays, KS 67601
 ATTN: Herb Deines

26-13S-19W Ellis, KS
Matlock #1
 Job Ticket: 65695 **DST#: 4**
 Test Start: 2019.06.12 @ 20:31:31

GENERAL INFORMATION:

Formation: **LKC "K"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:33:07
 Time Test Ended: 03:02:07
 Interval: **3657.00 ft (KB) To 3707.00 ft (KB) (TVD)**
 Total Depth: 3902.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Reset)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 2172.00 ft (KB)
 2163.00 ft (CF)
 KB to GR/CF: 9.00 ft

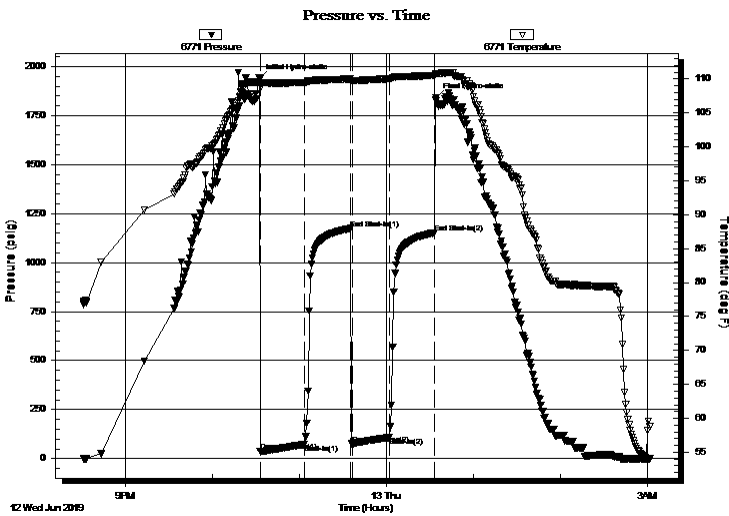
Serial #: 6771

Inside

Press@RunDepth: 108.74 psig @ 3658.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.06.12 End Date: 2019.06.13 Last Calib.: 2019.06.13
 Start Time: 20:31:32 End Time: 03:02:07 Time On Btm: 2019.06.12 @ 22:32:52
 Time Off Btm: 2019.06.13 @ 00:34:22

TEST COMMENT: 30- IF- BOB 5 mins. Built to 54.96"
 30- IS- Slow ly built to 4.37"
 30- FF- BOB 90s ecs. Built to 41.05"
 30- FS- Slow ly built to 5.15"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1937.02	109.41	Initial Hydro-static
1	36.19	108.99	Open To Flow (1)
31	74.35	109.48	Shut-In(1)
63	1173.67	110.00	End Shut-In(1)
65	74.09	109.72	Open To Flow (2)
90	108.74	110.02	Shut-In(2)
121	1151.74	110.52	End Shut-In(2)
122	1841.75	110.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	HOCM, 30%O 70%M	0.85
60.00	GMCO, 30%G 50%O 20%M	0.85
130.00	CGO, 20%G 80%O	1.84
0.00	1000' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI, Inc.
1310 Bison Rd.
Hays, KS 67601
ATTN: Herb Deines

26-13S-19W Ellis,KS
Matlock #1
Job Ticket: 65695 **DST#: 4**
Test Start: 2019.06.12 @ 20:31:31

Tool Information

Drill Pipe:	Length: 3669.00 ft	Diameter: 3.82 inches	Volume: 52.01 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - 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:	44000.00 lb
			<u>Total Volume:</u> - bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	3657.00 ft			Final	41000.00 lb
Depth to Bottom Packer:	3707.00 ft				
Interval between Packers:	50.00 ft				
Tool Length:	265.00 ft				
Number of Packers:	3	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3638.00	
Shut In Tool	5.00			3643.00	
Hydraulic tool	5.00			3648.00	
Packer	5.00			3653.00	20.00 Bottom Of Top Packer
Packer	4.00			3657.00	
Stubb	1.00			3658.00	
Recorder	0.00	6771	Inside	3658.00	
Recorder	0.00	8700	Outside	3658.00	
Perforations	7.00			3665.00	
Change Over Sub	1.00			3666.00	
Drill Pipe	31.00			3697.00	
Change Over Sub	1.00			3698.00	
Perforations	5.00			3703.00	
Blank Off Sub	1.00			3704.00	
Blank Spacing	3.00			3707.00	50.00 Tool Interval
Packer	1.00			3708.00	
Stubb	1.00			3709.00	
Change Over Sub	1.00			3710.00	
Recorder	0.00	8367	Below	3710.00	
Drill Pipe	188.00			3898.00	
Change Over Sub	1.00			3899.00	
Bullnose	3.00			3902.00	195.00 Bottom Packers & Anchor

Total Tool Length: 265.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

TDI, Inc.
1310 Bison Rd.
Hays, KS 67601
ATTN: Herb Deines

26-13S-19W Ellis,KS
Matlock #1
Job Ticket: 65695 **DST#: 4**
Test Start: 2019.06.12 @ 20:31:31

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 29 deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 58.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.98 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 4300.00 ppm		
Filter Cake: inches		

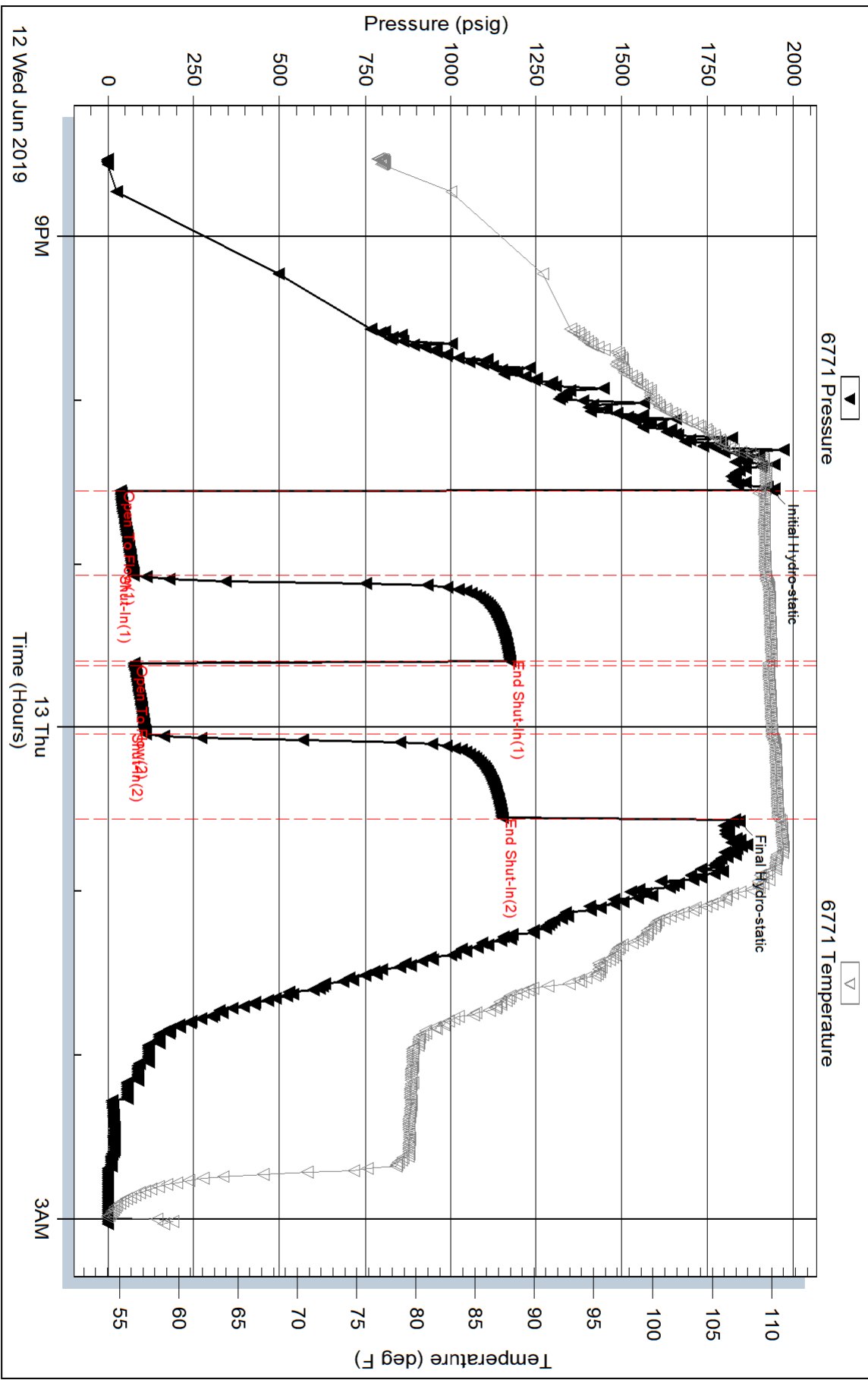
Recovery Information

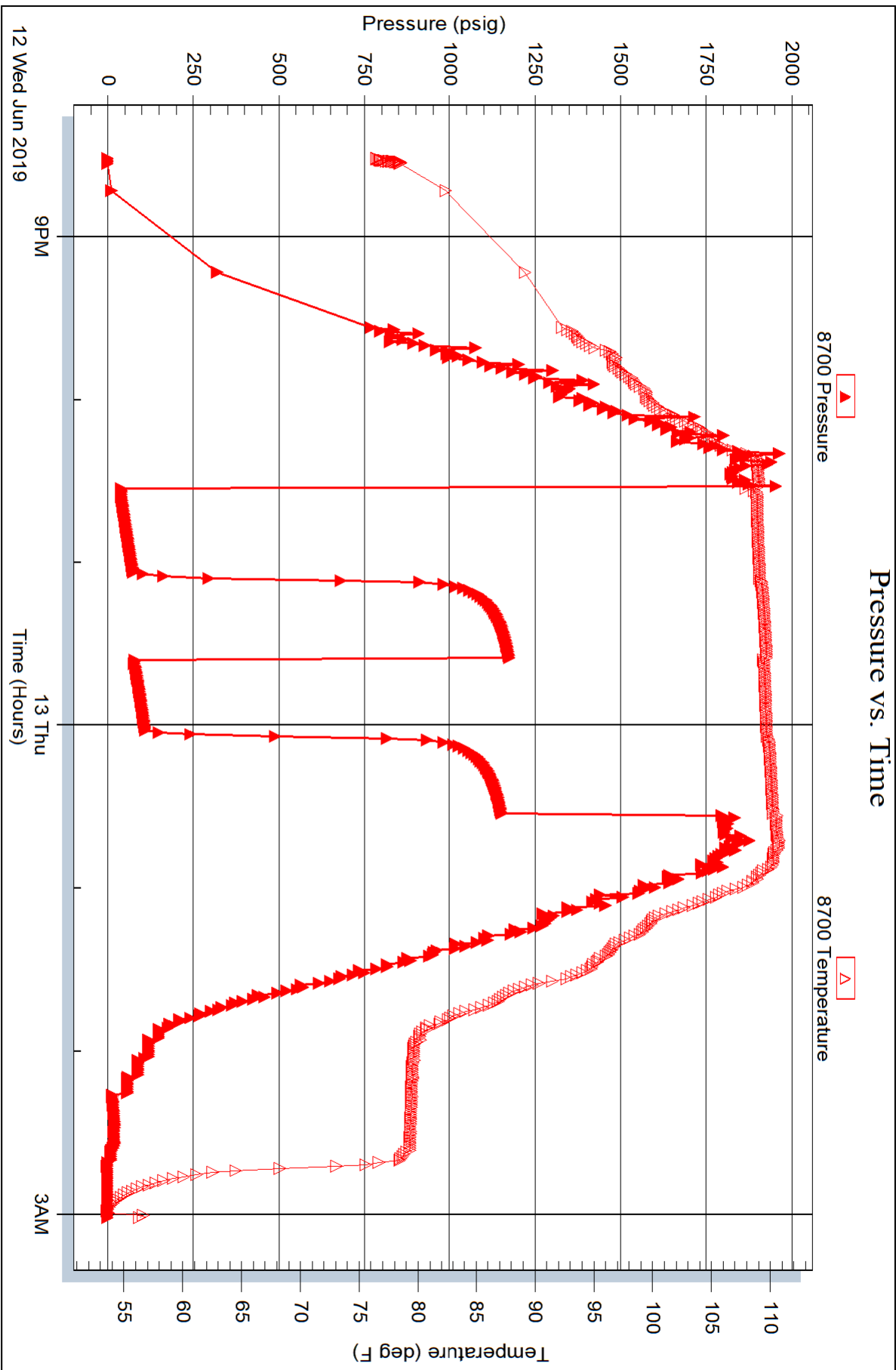
Recovery Table

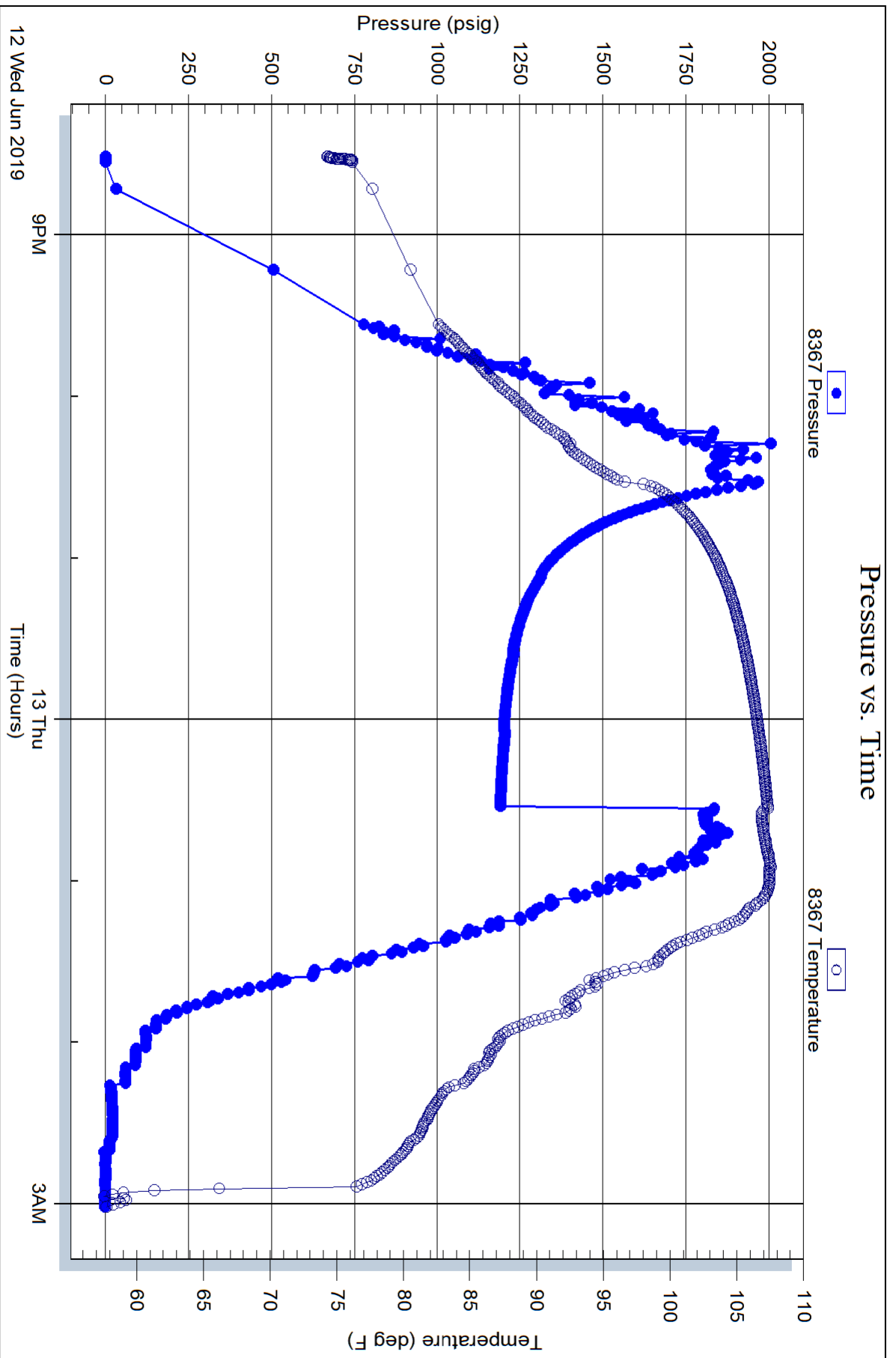
Length ft	Description	Volume bbl
60.00	HOCM, 30%O 70%M	0.851
60.00	GMCO, 30%G 50%O 20%M	0.851
130.00	CGO, 20%G 80%O	1.843
0.00	1000' GIP	0.000

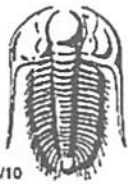
Total Length: 250.00 ft Total Volume: 3.545 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time









TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65692

Well Name & No. Matlock #1 Test No. 1 Date 6/10/19
 Company TPE, Inc. Elevation 2172 KB 2163 GL
 Address 1310 Bison Rd. Hays, KS 67601
 Co. Rep / Geo. Herb Deines Rig Southwind 3.1
 Location: Sec. 26 Twp 13 S Rge. 19 W Co. Ellis State KS

Interval Tested 3464-3535 Zone Tested LKC "A-D"
 Anchor Length 71' Drill Pipe Run 3450 Mud Wt. 8.9
 Top Packer Depth 3459 Drill Collars Run --- Vis 45
 Bottom Packer Depth 3464 Wt. Pipe Run --- WL 6.0
 Total Depth 3535 Chlorides 2,700 ppm System LCM 2^H

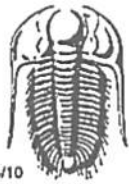
Blow Description IF- BOB 6 mins. Built to 45.90"
EST- No blow
FF- BOB 3 mins. Built to 50.91"
EST- No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>125</u>	<u>GW SMC0</u>	<u>20%</u>	<u>65%</u>	<u>10%</u>	<u>5%</u>
<u>95</u>	<u>GOCM</u>	<u>20%</u>	<u>10%</u>	<u>---</u>	<u>70%</u>
<u>---</u>	<u>725' GIP</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

Rec Total 220' BHT 108" Gravity 29 API RW .26 @ 81° F Chlorides 23,000 ppm
 (A) Initial Hydrostatic 1726 Test 1200 T-On Location 0245
 (B) First Initial Flow 28 Jars --- T-Started 0301
 (C) First Final Flow 74 Safety Joint --- T-Open 0607
 (D) Initial Shut-In 762 Circ Sub --- T-Pulled 0807
 (E) Second Initial Flow 76 Hourly Standby --- T-Out 1014
 (F) Second Final Flow 110 Mileage 20 RT 20 Comments ---
 (G) Final Shut-In 748 Sampler ---
 (H) Final Hydrostatic 1666 Straddle --- EM Tool ---
 Shale Packer --- Ruined Shale Packer ---
 Extra Packer --- Ruined Packer ---
 Extra Recorder --- Extra Copies ---
 Day Standby --- Sub Total 0
 Accessibility --- Total 1220
 Sub Total 1220 MP/DST Disc't X

Approved By _____ Our Representative Brannan Lonsdale

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65693**

Well Name & No. Matlock #1 Test No. 2 Date 6/10/19
 Company TDI, Inc. Elevation 2172 KB 2163 GL
 Address 1310 Bison Rd. Hays, KS 67601
 Co. Rep / Geo. Herb Dernes Rig Southwind 3.1
 Location: Sec. 26 Twp 13 S Rge. 19 W Co. Ellis State KS

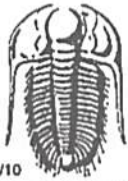
Interval Tested 3534-3580 Zone Tested LKC "F+G"
 Anchor Length 46' Drill Pipe Run 3544 Mud Wt. 9.0
 Top Packer Depth 3529 Drill Collars Run --- Vis 56
 Bottom Packer Depth 3534 Wt. Pipe Run --- WL 6.0
 Total Depth 3580 Chlorides 2,900 ppm System LCM 1^F
 Blow Description IF-BOB 13 mins. Built to 18.44"
ISF- No Flow
FF-BOB 21 mins. Built to 12.45"
FSF- No Flow

Rec	Feet of	%gas	%oil	%water	%mud
<u>190</u>	<u>MW</u>		<u>20</u>	<u>20</u>	
<u>110</u>	<u>WM</u>		<u>15</u>	<u>85</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 300' BHT 111° Gravity --- API RW 110 @ 56° F Chlorides 82000 ppm
 (A) Initial Hydrostatic 1783 Test 1200 T-On Location 1733
 (B) First Initial Flow 25 Jars --- T-Started 1753
 (C) First Final Flow 100 Safety Joint --- T-Open 2056
 (D) Initial Shut-In 793 Circ Sub --- T-Pulled 2256
 (E) Second Initial Flow 105 Hourly Standby --- T-Out 6/11 0100
 (F) Second Final Flow 159 Mileage 20 RT 20 Comments ---
 (G) Final Shut-In 799 Sampler ---
 (H) Final Hydrostatic 1729 Straddle ---
 Shale Packer --- EM Tool ---
 Extra Packer --- Ruined Shale Packer ---
 Extra Recorder --- Ruined Packer ---
 Day Standby --- Extra Copies ---
 Accessibility --- Sub Total 0
 Sub Total 1220 Total 1220 MP/DST Disc't ---

Approved By _____ Our Representative Brannan Lowndale

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65694

Well Name & No. Matlock #1 Test No. 3 Date 6/11/19
 Company TDF, Inc. Elevation 2172 KB 2163 GL
 Address 1310 Bison Rd. Hays, KS 67601
 Co. Rep / Geo. Herb Darnes Rig Southwind 3.1
 Location: Sec. 24 Twp 13 S Rge. 19 W Co. Ellis State KS

Interval Tested 3638-3660 Zone Tested LKC "J"
 Anchor Length 22' Drill Pipe Run 3637 Mud Wt. 9.2
 Top Packer Depth 3633 Drill Collars Run --- Vis 52
 Bottom Packer Depth 3638 Wt. Pipe Run --- WL 6.8
 Total Depth 3660 Chlorides 3,000 ppm System LCM 1#

Blow Description IF - Slowly built to 2.45"
FST - No blow
FF - 1.68" initial surge. Slowly built to 2.95"
FST - No blow

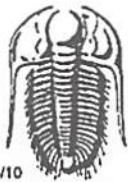
Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>GHOCM</u>	<u>15</u>	<u>25</u>	<u>60</u>	<u>---</u>
	<u>30' GIP</u>				

Rec Total _____ BHT 108' Gravity 30 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1853</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>1045</u>
(B) First Initial Flow <u>17</u>	<input type="checkbox"/> Jars _____	T-Started <u>1100</u>
(C) First Final Flow <u>18</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>1330</u>
(D) Initial Shut-In <u>80</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>1630</u>
(E) Second Initial Flow <u>15</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>1823</u>
(F) Second Final Flow <u>18</u>	<input checked="" type="checkbox"/> Mileage <u>20 RT</u> 20	Comments _____
(G) Final Shut-In <u>73</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1804</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>45</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>45</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Accessibility _____	Total <u>1220</u>
	Sub Total <u>1220</u>	MP/DST Disc't _____

Approved By _____ Our Representative Brannan Long Sale

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65695

Well Name & No. Matlock #1 Test No. 4 Date 6/12/19
 Company TDI, Inc. Elevation 2172 KB 2163 GL
 Address 1310 Bison Rd Hays, KS 67601
 Co. Rep / Geo. Jeff Laufer Rig Southwind 3.1
 Location: Sec. 26 Twp 13 S Rge. 19 Wco. Ellis State KS

Interval Tested 3657-3707 Zone Tested LKC "K"
 Anchor Length 50' Tail: 195' Drill Pipe Run 3669 Mud Wt. 9.5
 Top Packer Depth 3652-3657 Drill Collars Run — Vis 58
 Bottom Packer Depth 3707 Wt. Pipe Run — WL 6.0
 Total Depth 3902 Chlorides 4300 ppm System LCM 2#

Blow Description IF-BOB 5mins. Built to 54.96"
IFT- slowly built to 4.37"
FF-BOB 90secs. Built to 41.05"
FST- slowly built to 5.15"

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>HOCM</u>	<u>30</u>	<u>30</u>	<u>70</u>	<u>—</u>
<u>60</u>	<u>GMCO</u>	<u>30</u>	<u>50</u>	<u>20</u>	<u>—</u>
<u>130</u>	<u>CGO</u>	<u>20</u>	<u>80</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>1000' CIP</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Rec Total 250' BHT 111° Gravity 29 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1937</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>1830</u>
(B) First Initial Flow <u>36</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>2031</u>
(C) First Final Flow <u>74</u>	<input type="checkbox"/> Safety Joint <u>—</u>	T-Open <u>2233</u>
(D) Initial Shut-In <u>1174</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>6/13</u> <u>0033</u>
(E) Second Initial Flow <u>74</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>0302</u>
(F) Second Final Flow <u>109</u>	<input checked="" type="checkbox"/> Mileage <u>20 RT</u> <u>20</u>	Comments <u>—</u>
(G) Final Shut-In <u>1152</u>	<input type="checkbox"/> Sampler <u>—</u>	<input type="checkbox"/> EM Tool <u>—</u>
(H) Final Hydrostatic <u>1842</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby <u>—</u>	Total <u>2070</u>
	<input type="checkbox"/> Accessibility <u>—</u>	MP/DST Disc't <u>—</u>
	Sub Total <u>2070</u>	

Approved By _____ Our Representative Brannan Lonsdale

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