



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Schaben Oil LLC

31-19s-21w Ness Co

2704 Ash
Hays Ks
67601

Lyle Schaben 5-31

Job Ticket: 65619

DST#: 1

ATTN: Andrew Stenzel

Test Start: 2016.10.12 @ 15:47:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
59.00	gcmo 5%g 20%m 75%o	0.290
64.00	gcom 5%g 25%o 70%m	0.360
0.00	2" free oil on top	0.000

Total Length: 123.00 ft

Total Volume: 0.650 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

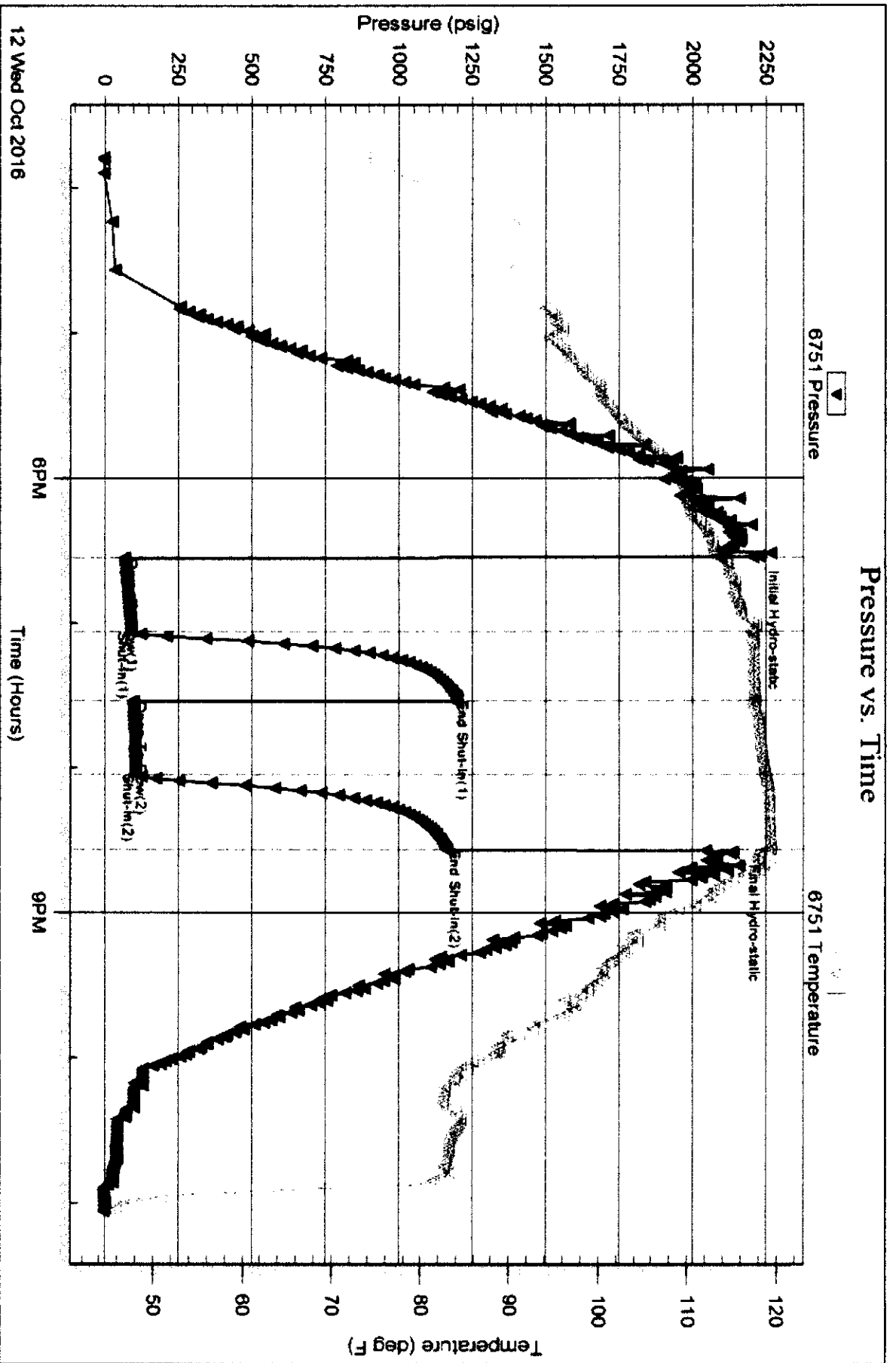
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: No water

API 33@ 60 corrected to 33



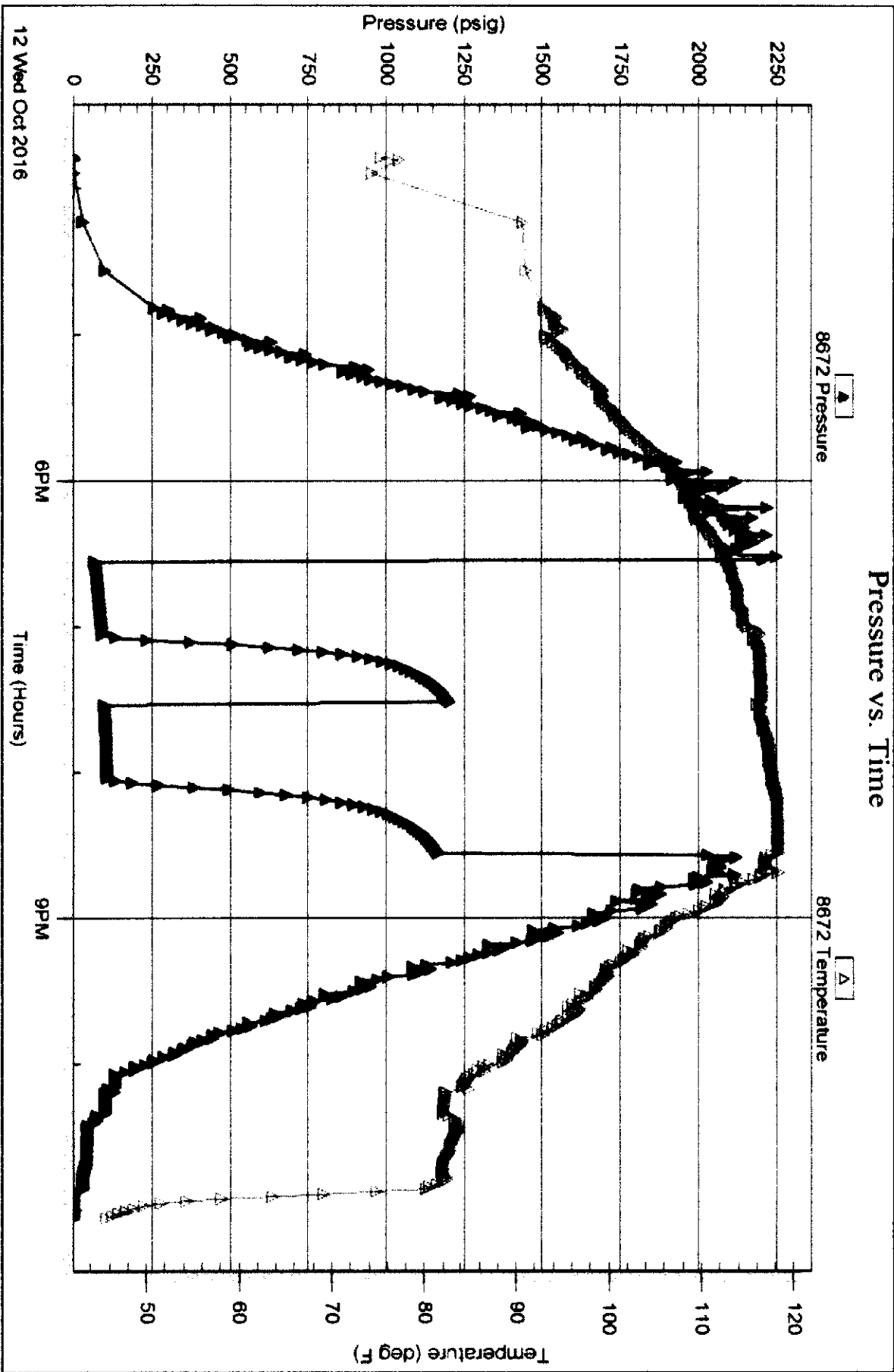
Serial #: 8672

Inside

Schaben Oil LLC

Lyle Schaben 5-31

DST Test Number: 1





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DRILL STEM TEST REPORT

FLUID SUMMARY

Schaben Oil LLC

31-19s-21w Ness Co

2704 Ash
Hays Ks 67601

Lyle Schaben 5-31

Job Ticket: 65620

DST#: 2

ATTN: Andrew Stenzel

Test Start: 2016.10.13 @ 05:49:15

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 51.00 sec/qt
Water Loss: 8.77 in³
Resistivity: 0.00 ohm.m
Salinity: 6400.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 34 deg API
Water Salinity: 13000 ppm

Recovery Information

Recovery Table

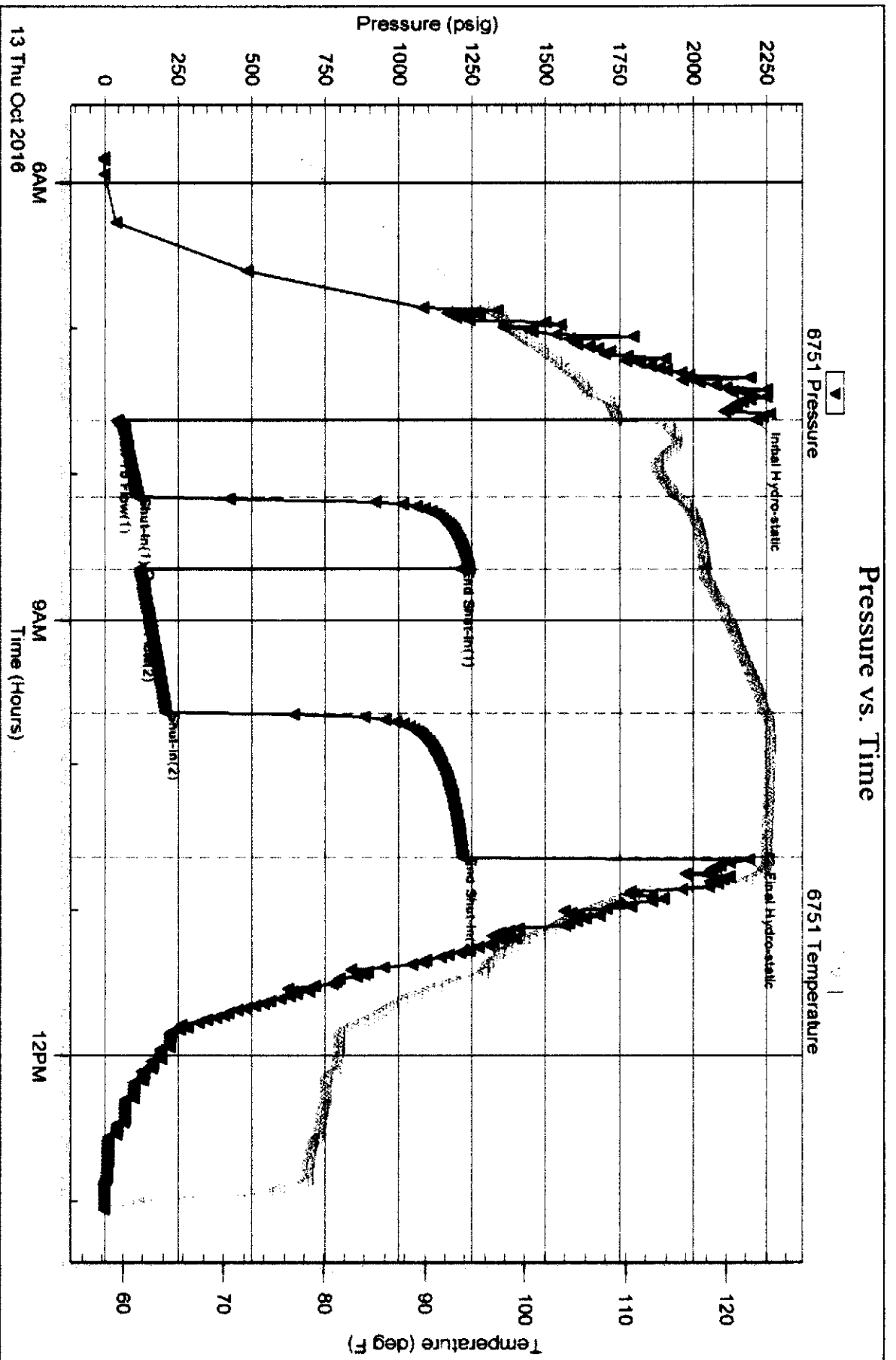
Length ft	Description	Volume bbl
118.00	ocmw 2%o 30%m 68%w (Collars)	0.580
124.00	gcow m 10%g 10%o 10%w 70%m	1.739
206.00	gco 20%g 80%o	2.890
0.00	GIP= 372 feet	0.000

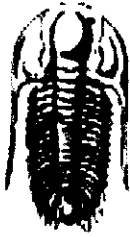
Total Length: 448.00 ft Total Volume: 5.209 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: API 34 @ 60 corrected to 34
RW .682@54.9= 13,000 ppm





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DRILL STEM TEST REPORT

Schaben Oil LLC

31-19s-21w Ness Co

2704 Ash
Hays Ks 67601

Lyle Schaben 5-31

ATTN: Andrew Stenzel

Job Ticket: 65620

DST#: 2

Test Start: 2016.10.13 @ 05:49:15

GENERAL INFORMATION:

Formation: **Miss**
 Deviated: **No** Whipstock: **ft (KB)** Test Type: **Conventional Bottom Hole (Reset)**
 Time Tool Opened: 07:37:45 Tester: **Mike Roberts**
 Time Test Ended: 13:03:15 Unit No: **81**

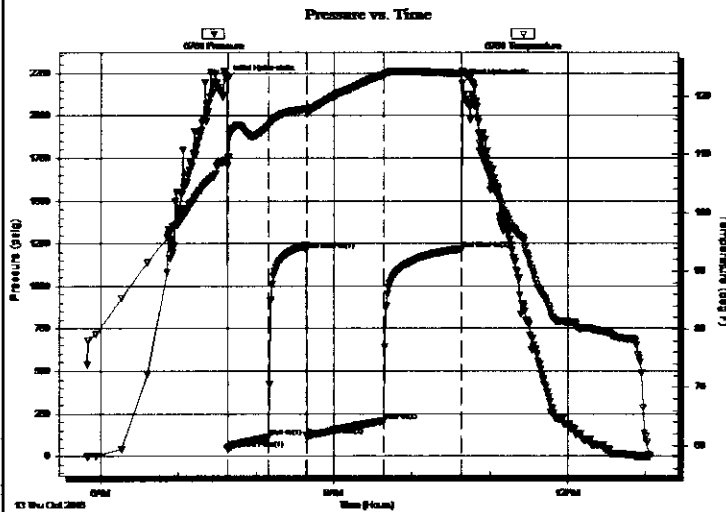
Interval: **4408.00 ft (KB) To 4416.00 ft (KB) (TVD)** Reference Elevations: **2270.00 ft (KB)**
 Total Depth: **4416.00 ft (KB) (TVD)** **2259.00 ft (CF)**
 Hole Diameter: **7.88 inches** Hole Condition: **Fair** KB to GR/CF: **11.00 ft**

Serial #: 6751

Outside

Press@RunDepth: 208.05 psig @ 4409.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.10.13 End Date: 2016.10.13 Last Calib.: 2016.10.13
 Start Time: 05:49:15 End Time: 13:03:15 Time On Btm: 2016.10.13 @ 07:37:30
 Time Off Btm: 2016.10.13 @ 10:39:00

TEST COMMENT: IF:BOB in 21 min.
 IS:Return blow built to weak surface and died in 18 min
 FF:Built to 7" blow
 FS:Return blow built to weak surface and died in 23 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2211.17	109.10	Initial Hydro-static
1	43.87	108.13	Open To Flow (1)
32	112.28	114.96	Shut-In(1)
62	1211.48	117.87	End Shut-In(1)
62	121.25	117.54	Open To Flow (2)
121	208.05	123.69	Shut-In(2)
181	1217.69	123.94	End Shut-In(2)
182	2189.10	124.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
118.00	ocmw 2%o 30%m 68%w (Collars)	0.58
124.00	gcow m 10%g 10%o 10%w 70%m	1.74
206.00	gco 20%g 80%o	2.89
0.00	GIP= 372 feet	0.00

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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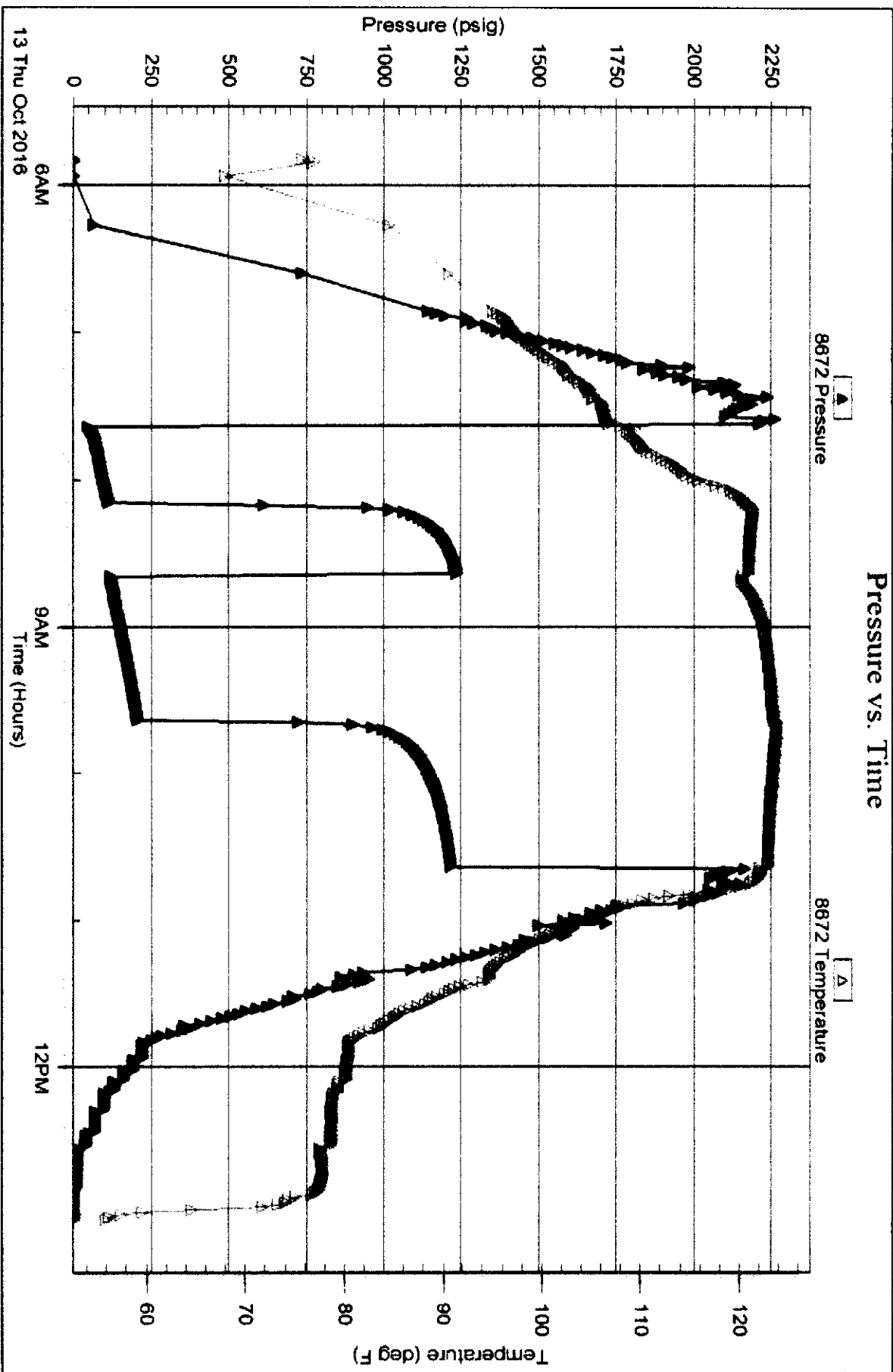
Serial # 9672

Inside

Schaben Oil LLC

Lyle Schaben 5-31

DST Test Number 2





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DRILL STEM TEST REPORT

Schaben Oil LLC

31-19s-21w Ness Co

2704 Ash
Hays Ks
67601
ATTN: Andrew Stenzel

Lyle Schaben 5-31
Job Ticket: 65621 **DST#: 3**
Test Start: 2016.10.13 @ 18:29:15

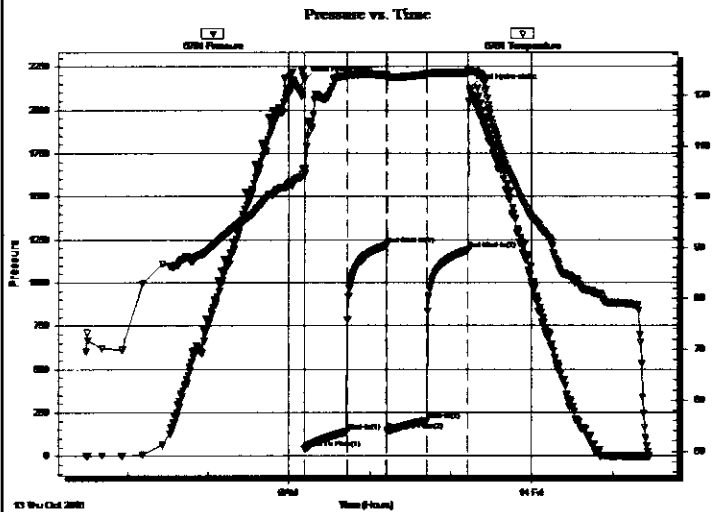
GENERAL INFORMATION:

Formation: **Miss**
Deviated: **No** Whipstock: ft (KB) Test Type: **Conventional Bottom Hole (Reset)**
Time Tool Opened: 21:11:45 Tester: **Mike Roberts**
Time Test Ended: 01:27:00 Unit No: **81**

Interval: **4415.00 ft (KB) To 4421.00 ft (KB) (TVD)** Reference Elevations: 2270.00 ft (KB)
Total Depth: **4421.00 ft (KB) (TVD)** 2259.00 ft (CF)
Hole Diameter: **7.88 inches** Hole Condition: **Fair** KB to GR/CF: 11.00 ft

Serial #: 6751 **Outside**
Press@RunDepth: 204.52 psig @ 4416.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2016.10.13 End Date: 2016.10.14 Last Calib.: 2016.10.14
Start Time: 18:29:15 End Time: 01:27:00 Time On Btm: 2016.10.13 @ 21:11:30
Time Off Btm: 2016.10.13 @ 23:14:00

TEST COMMENT: IF:BOB in 15 min.
IS:Built to weak surface blow and died in 18 min.
FF:BOB in 23 min.
FS:Built to weak surface blow and died in 21 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2172.81	105.68	Initial Hydro-static
1	40.75	104.59	Open To Flow (1)
32	138.59	123.82	Shut-In(1)
61	1216.99	124.02	End Shut-In(1)
62	142.83	123.64	Open To Flow (2)
91	204.52	124.05	Shut-In(2)
122	1188.49	124.45	End Shut-In(2)
123	2125.73	124.71	Final Hydro-static

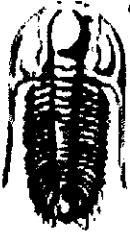
Recovery

Length (ft)	Description	Volume (bbl)
180.00	sw 100% sw (Collars)	1.45
124.00	ocmw 5%o 10%m 85%w	1.74
62.00	ocmw 5%o 40%m 55%w	0.87
30.00	w com 15%w 25%o 60%m	0.42
15.00	free oil 100%o	0.21

* Recovery from multiple tests

Gas Rates

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



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Schaben Oil LLC

31-19s-21w Ness Co

2704 Ash
Hays Ks
67601

Lyle Schaben 5-31

Job Ticket: 65621

DST#: 3

ATTN: Andrew Stenzel

Test Start: 2016.10.13 @ 18:29:15

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 50.00 sec/qt
Water Loss: 9.17 in³
Resistivity: 0.00 ohm.m
Salinity: 6100.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 33 deg API
Water Salinity: 14000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	sw 100% sw (Collars)	1.450
124.00	ocmw 5%o 10%m 85%w	1.739
62.00	ocmw 5%o 40%m 55%w	0.870
30.00	w com 15%w 25%o 60%m	0.421
15.00	free oil 100%o	0.210

*1.52
4785
063
3,5115*

Total Length: 411.00 ft Total Volume: 4.690 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

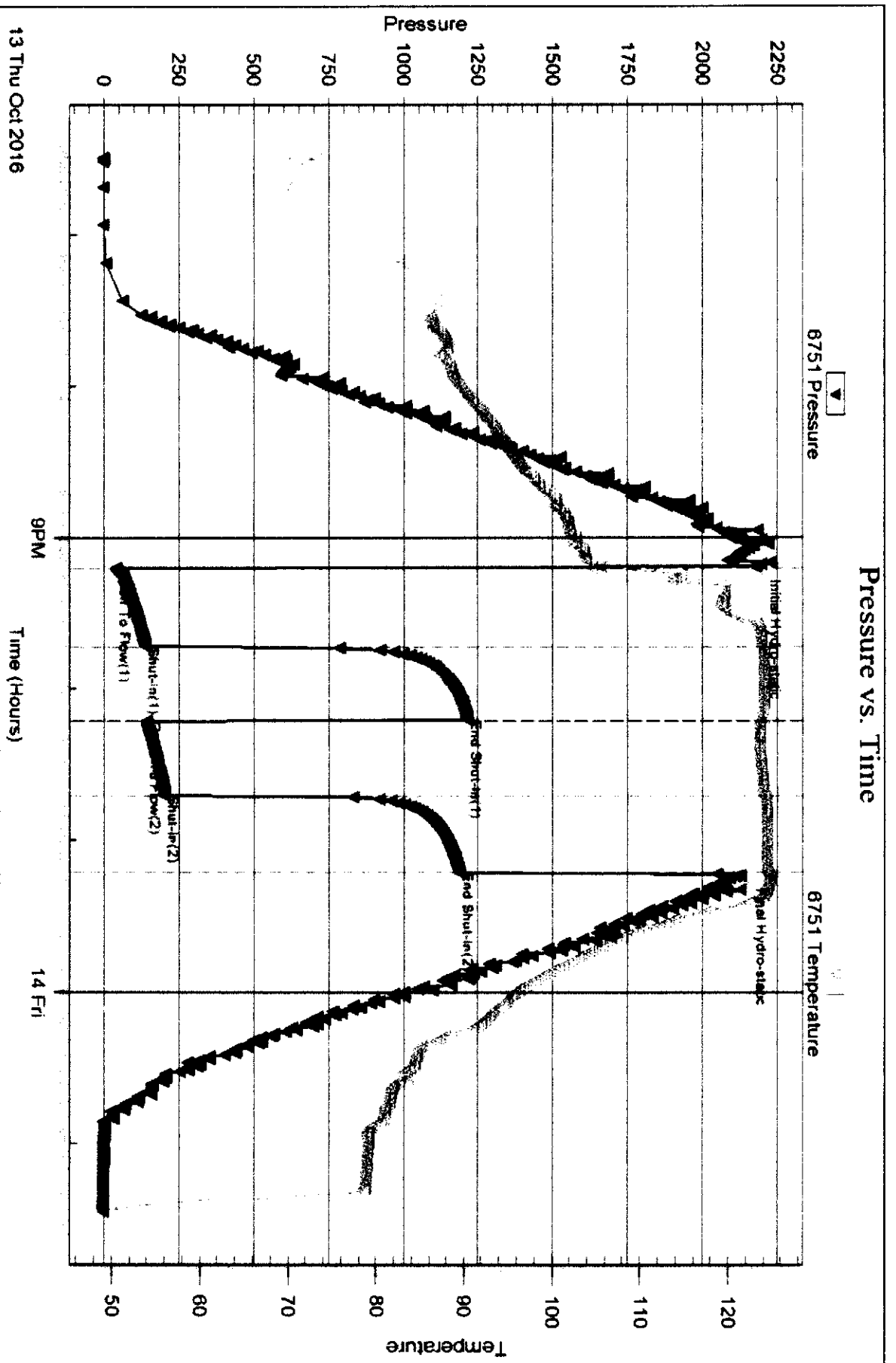
Recovery Comments: API 33@ 60 corrected to 33
RW= .721@56.3=14,000 ppm

Serial # 6751

Outside Schaben Oil LLC

Lyte Schaben 5-31

DST Test Number 3



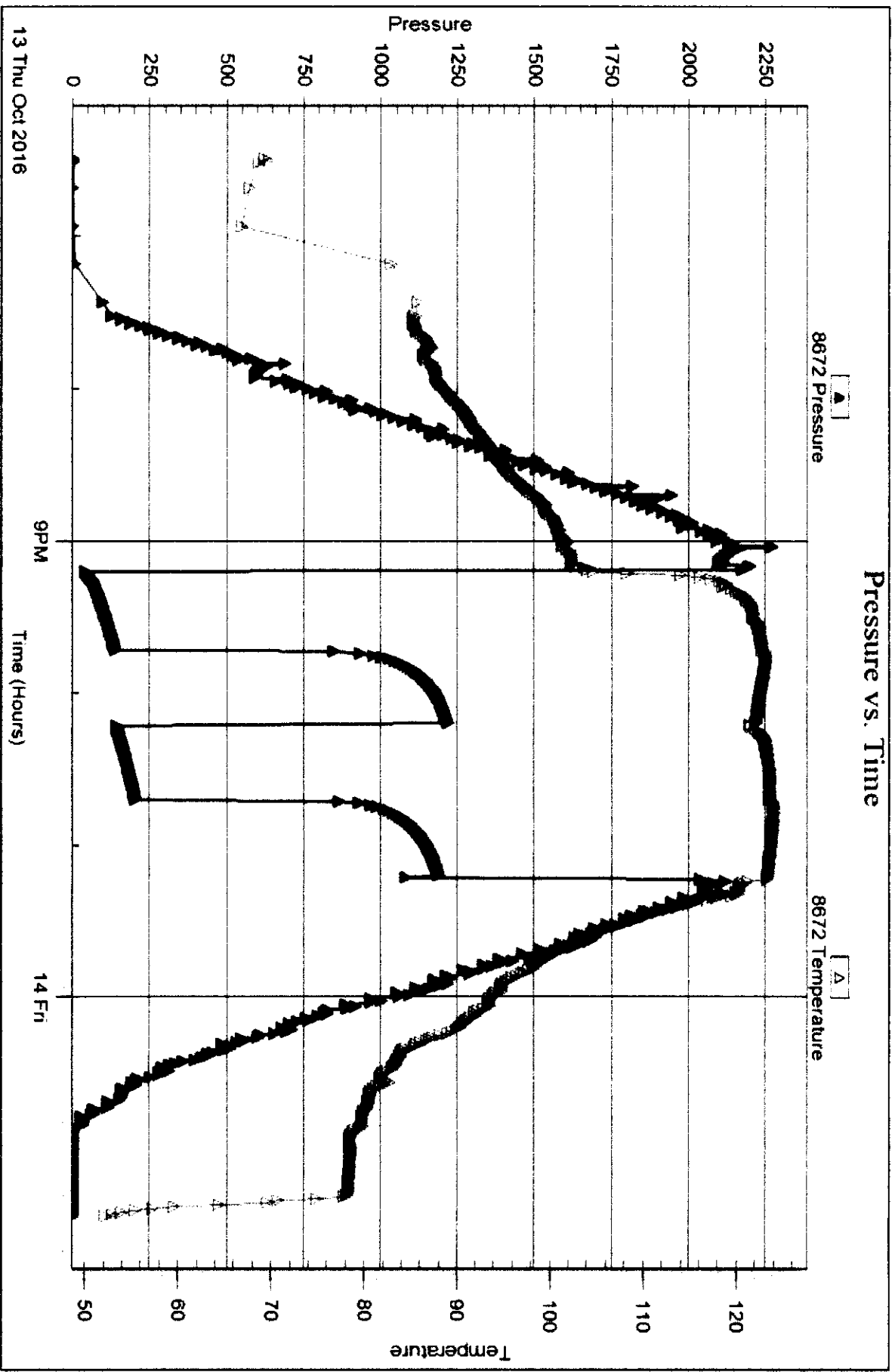
Serial # 8672

Inside

Schaben Oil LLC

Lyle Schaben 5-31

DST Test Number: 3



Triacelle Testing, Inc

Ref. No: 65621

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