

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **K&N Petroleum Inc**

1105 Walnut
Great Bend KS 67530

ATTN: Ed Nemnich/Jim Musgr

Panning #6

23-19s-11w Barton,KS

Start Date: 2013.11.29 @ 18:45:31

End Date: 2013.11.30 @ 01:00:10

Job Ticket #: 55453 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.12.04 @ 10:42:53

K&N Petroleum Inc 23-19s-11w Barton,KS Panning #6 DST # 1 LKC 2013.11.29



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

K&N Petroleum Inc
1105 Walnut
Great Bend KS 67530

23-19s-11w Barton,KS

Panning #6

Job Ticket: 55453

DST#: 1

ATTN: Ed Nemnich/Jim Musgr

Test Start: 2013.11.29 @ 18:45:31

GENERAL INFORMATION:

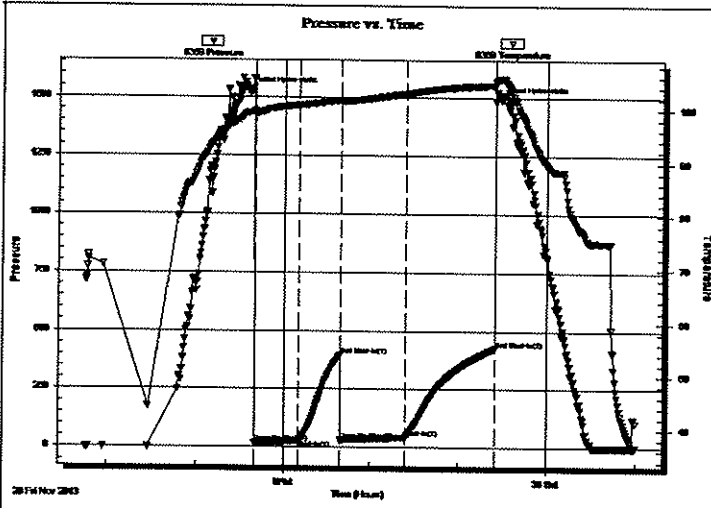
Formation: **LKC**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 20:39:41 Tester: Ray Schwager
 Time Test Ended: 01:00:10 Unit No: 70
 Interval: 3166.00 ft (KB) To 3250.00 ft (KB) (TVD) Reference Elevations: 1781.00 ft (KB)
 Total Depth: 3250.00 ft (KB) (TVD) 1774.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 7.00 ft

Serial #: 8369

Inside

Press@RunDepth: 43.70 psig @ 3168.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.11.29 End Date: 2013.11.30 Last Calib.: 2013.11.30
 Start Time: 18:45:31 End Time: 01:00:10 Time On Btm: 2013.11.29 @ 20:36:26
 Time Off Btm: 2013.11.29 @ 23:28:40

TEST COMMENT: 30-IFP-w k bl thru-out 1/2" to 3 1/4" bl
 30-ISIP-no bl
 45-FFP-w k bl thru-out 1/4" to 3" bl
 60-FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1522.34	99.41	Initial Hydro-static
4	16.66	99.02	Open To Flow (1)
34	28.57	100.77	Shut-In(1)
63	396.41	101.70	End Shut-In(1)
63	30.70	101.55	Open To Flow (2)
108	43.70	103.04	Shut-In(2)
169	426.25	104.65	End Shut-In(2)
173	1488.99	105.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	186'GIP	0.00
60.00	SO&GCM 5%G1%O94%M	0.84

Gas Rates

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



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DRILL STEM TEST REPORT

FLUID SUMMARY

K&N Petroleum Inc

23-19s-11w Barton,KS

1105 Walnut
Great Bend KS 67530

Panning #6

Job Ticket: 55453

DST#: 1

ATTN: Ed Nemnich/Jim Musgr

Test Start: 2013.11.29 @ 18:45:31

Mud and Cushion Information

Mud Type: Col Chem

Mud Weight: 9.00 lb/gal

Viscosity: 51.00 sec/qt

Water Loss: 7.18 in³

Resistivity: ohm.m

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	186'GIP	0.000
60.00	SO&GCM 5%G1%O94%M	0.842

Total Length: 60.00 ft Total Volume: 0.842 bbl

Num Fluid Samples: 0

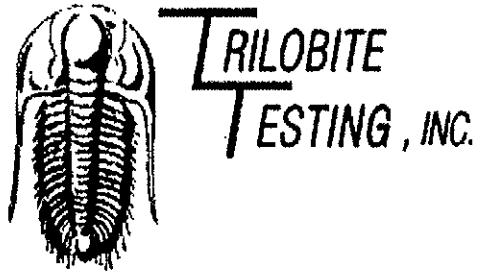
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



DRILL STEM TEST REPORT

Prepared For: **K&N Petroleum Inc**

1105 Walnut
Great Bend KS 67530

ATTN: Ed Nernich/Jim Musgr

Panning #6

23-19s-11w Barton,KS

Start Date: 2013.11.30 @ 13:50:16

End Date: 2013.11.30 @ 18:59:40

Job Ticket #: 55454 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.12.04 @ 10:42:18

K&N Petroleum Inc

23-19s-11w Barton,KS

Panning #6

DST # 2

Arbuckle

2013.11.30



**TRIOBITE
TESTING, INC**

DRILL STEM TEST REPORT

K&N Petroleum Inc
1105 Walnut
Great Bend KS 67530
ATTN: Ed Neundorfer/rocklog

23-19s-11w Barton,KS
Panning #6
Job Ticket: 55454 DST#: 2
Test Start: 2013.11.30 @ 13:50:16

GENERAL INFORMATION:

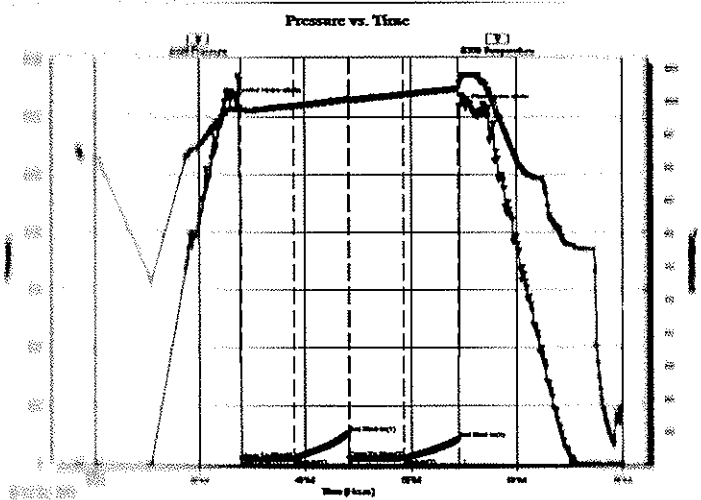
Location: **Arbuckle**
Whipstock: **No** H (KB)
Time Test Started: **15:23:56**
Time Test Ended: **18:59:40**
Interval: **3276.00 ft (KB) To 3336.00 ft (KB) (TVI)**
Depth (Depth): **3336.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Fail**

Test Type: **Conventional Bottom Hole (Reset)**
Tester: **Ray Schwager**
Unit No: **70**
Reference Elevations: **1781.00 ft (KB)**
1774.00 ft (CF)
KB to GR/CF: **7.00 ft**

Serial #: **0369** **Inside**
Pressure (Depth): **22.96 psig @ 3280.00 ft (KB)**
Start Date: **2013.11.30** End Date: **2013.11.30**
Start Time: **13:50:16** End Time: **18:59:40**

Capacity: **8000.00 psig**
Last Calib.: **2013.11.30**
Time On Btm: **2013.11.30 @ 15:21:26**
Time Off Btm: **2013.11.30 @ 17:31:11**

TEST COMMENTS: 30-IFP-w k bl thru-out 1/2" to 1" bl
30-ISIP-no bl
30-FFP-w k bl thru-out 1/2" to 1" bl
30-FSIP-no bl



PRESSURE SUMMARY

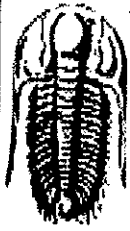
Time (Min)	Pressure (psig)	Temp (deg F)	Annotation
0	1572.29	98.96	Initial Hydro-static
19	18.28	98.76	Open To Flow (1)
33	22.21	99.38	Shut-In(1)
64	129.04	100.39	End Shut-In(1)
64	19.63	100.34	Open To Flow (2)
94	22.96	101.11	Shut-In(2)
176	103.45	102.03	End Shut-In(2)
190	1539.13	104.09	Final Hydro-static

Recovery

Description	Volume (ft³)
00%N2	0.00
00%O2M 5%G5%O90%M	0.28

Gas Rates

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



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DRILL STEM TEST REPORT

FLUID SUMMARY

K&N Petroleum Inc

23-19s-11w Barton,KS

1105 Walnut
Great Bend KS 67530

Panning #6

Job Ticket: 55454

DST#: 2

ATTN: Ed Nemnich/Jim Musgr

Test Start: 2013.11.30 @ 13:50:16

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: 51.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	60'GIP	0.000
20.00	O&GCM 5%G5%O90%M	0.281

Total Length: 20.00 ft Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

DST Test Number: 2

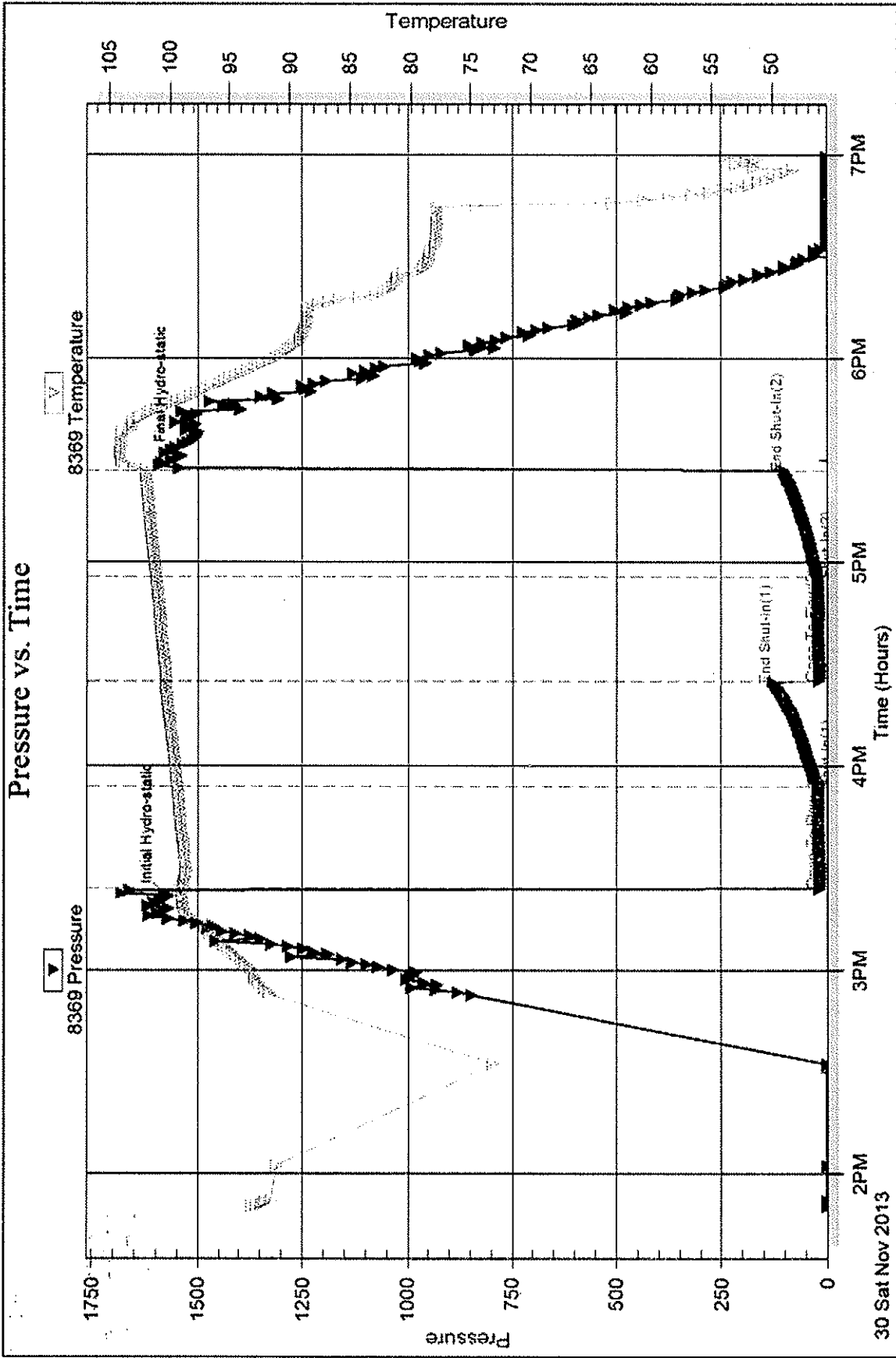
Panning #6

K&N Petroleum Inc

Inside

Serial #: 8369

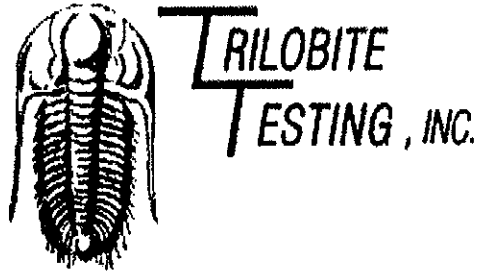
Pressure vs. Time



Printed: 2013.12.04 @ 10:42:21

Ref. No: 55454

Triobite Testing, Inc



DRILL STEM TEST REPORT

Prepared For: **K&N Petroleum Inc**

1105 Walnut
Great Bend KS 67530

ATTN: Ed Nemnich/Jim Musgr

Panning #6

23-19s-11w Barton,KS

Start Date: 2013.11.30 @ 23:41:14

End Date: 2013.12.01 @ 06:57:44

Job Ticket #: 55455 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.12.04 @ 10:10:36

K&N Petroleum Inc

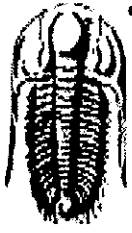
23-19s-11w Barton,KS

Panning #6

DST # 3

Arbuckle

2013.11.30



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

K&N Petroleum Inc
 1105 Walnut
 Great Bend KS 67530
 ATTN: Ed Nemnich/Jim Musgr

23-19s-11w Barton,KS
Panning #6
 Job Ticket: 55455 **DST#: 3**
 Test Start: 2013.11.30 @ 23:41:14

GENERAL INFORMATION:

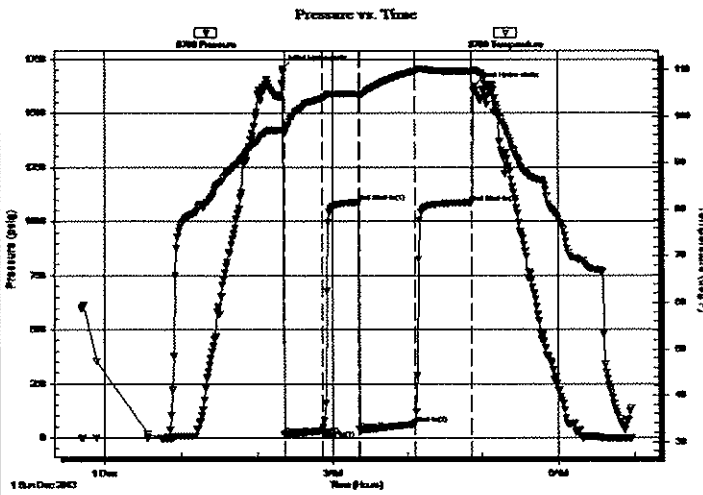
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:20:59
 Time Test Ended: 06:57:44
 Interval: **3334.00 ft (KB) To 3346.00 ft (KB) (TVD)**
 Total Depth: **3346.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Tim Phillips
 Unit No: 70
 Reference Elevations: 1781.00 ft (KB)
 1774.00 ft (CF)
 KB to GRVCF: 7.00 ft

Serial #: 8700

Outside

Press@RunDepth: 62.16 psig @ 3336.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.11.30 End Date: 2013.12.01 Last Calib.: 2013.12.01
 Start Time: 23:41:19 End Time: 06:57:43 Time On Btm: 2013.12.01 @ 02:19:44
 Time Off Btm: 2013.12.01 @ 04:53:44

TEST COMMENT: IFP-30-BOB in 13 min
 ISI-30-Built to 1/4" died back
 FF-45-BOB in 9 min
 FSI-45-Built to 1 1/2" died back to 1/4"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1705.49	97.11	Initial Hydro-static
2	15.20	96.39	Open To Flow (1)
32	35.36	103.95	Shut-In(1)
61	1088.31	104.99	End Shut-In(1)
62	38.05	104.64	Open To Flow (2)
106	62.16	109.83	Shut-In(2)
152	1086.74	109.77	End Shut-In(2)
154	1625.38	109.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
130.00	GO 10% gas, 90% Oil	1.82
0.00	630' of GIP	0.00

* Recovery from multiple tests

Gas Rates

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



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FLUID SUMMARY

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23-19s-11w Barton,KS

1105 Walnut
Great Bend KS 67530

Panning #6

Job Ticket: 55455

DST#: 3

ATTN: Ed Nemnich/Jim Musgr

Test Start: 2013.11.30 @ 23:41:14

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: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
130.00	GO 10% gas, 90% Oil	1.824
0.00	630' of GIP	0.000

Total Length: 130.00 ft Total Volume: 1.824 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

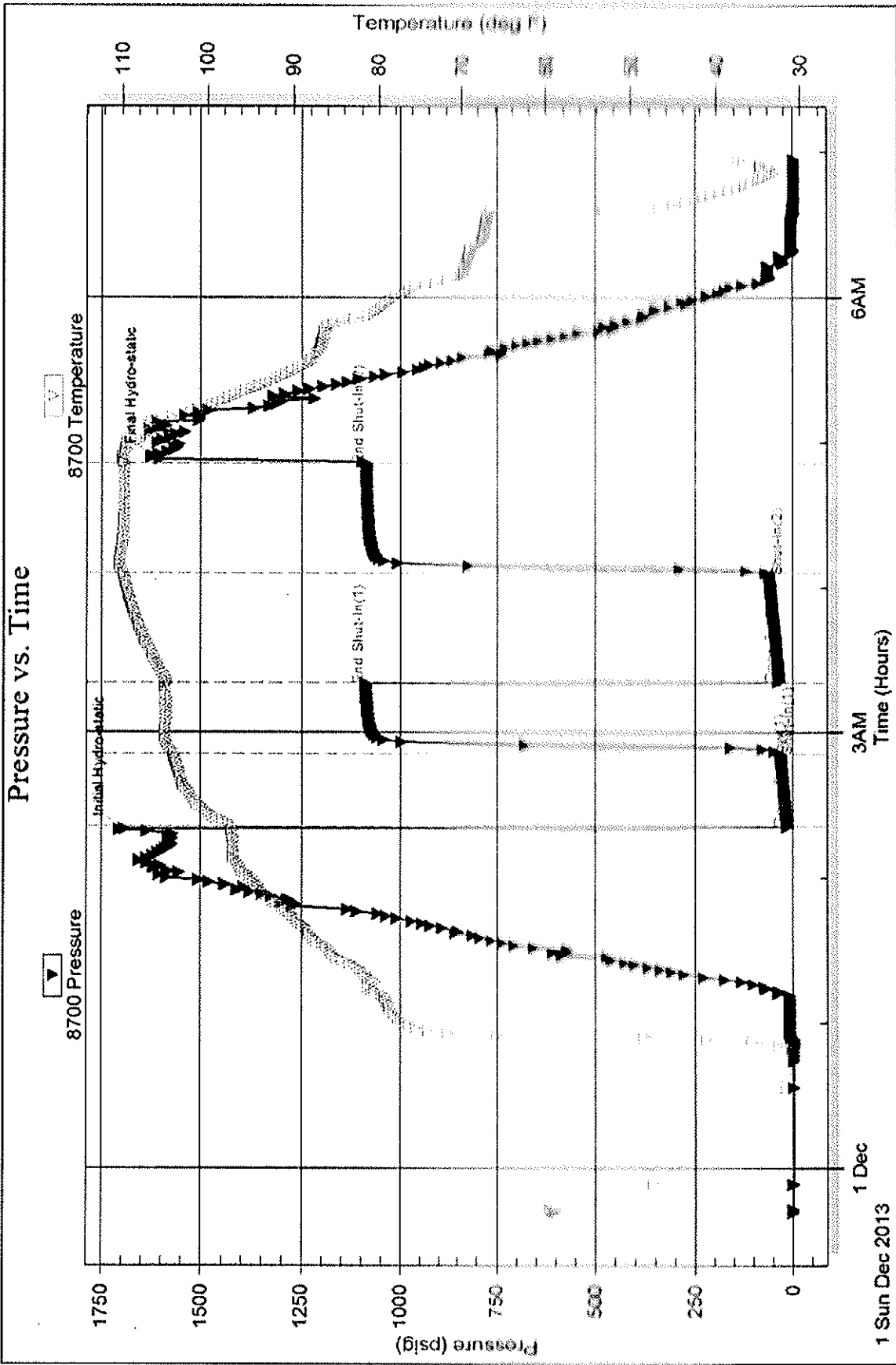
Serial #: 8700

Outside K&N Petroleum Inc

Panning #6

DST Test Number: 3

Pressure vs. Time



Tribotek Testing, Inc

Ref. No: 55455

Printed: 2013.12.04 @ 10:10:39