

DRILL STEM TEST REPORT

Prepared For: **Zinszer Oil Co. Inc**

PO Box 211
Hays, KS 67601

ATTN: Perry Henman

Armbruster #1

2-15s-20w Ellis KS

Start Date: 2012.11.26 @ 02:27:00

End Date: 2012.11.26 @ 09:31:00

Job Ticket #: 51557 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.30 @ 15:11:54



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Zinszer Oil Co. Inc

2-15s-20w Ellis KS

PO Box 211
Hays, KS 67601

Armbruster #1

ATTN: Perry Henman

Job Ticket: 51557

DST#: 1

Test Start: 2012.11.26 @ 02:27:00

GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:00:00

Time Test Ended: 09:31:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 44

Interval: 3229.00 ft (KB) To 3285.00 ft (KB) (TVD)

Reference Elevations: 2053.00 ft (KB)

Total Depth: 3285.00 ft (KB) (TVD)

2048.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8737 Outside

Press @ RunDepth: 109.86 psig @ 3265.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.11.26

End Date:

2012.11.26

Last Calib.:

2012.11.26

Start Time: 02:27:01

End Time:

09:31:00

Time On Btm:

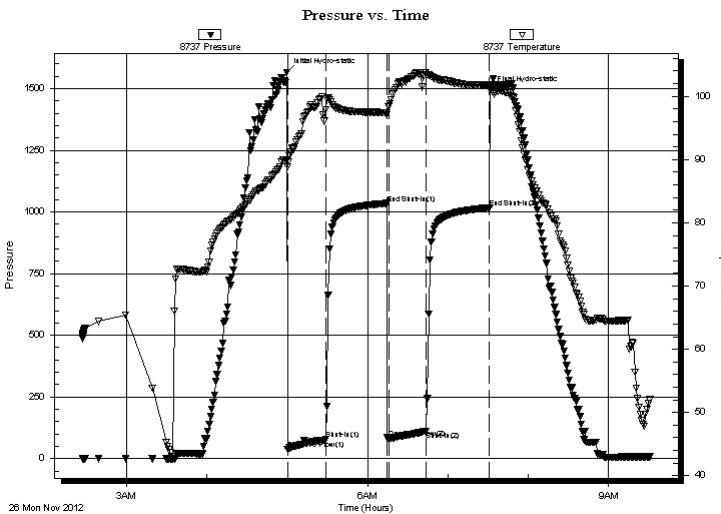
2012.11.26 @ 04:59:30

Time Off Btm:

2012.11.26 @ 07:31:30

TEST COMMENT: 30 - IF- 9 1/2" blow
45 - IS- No blow back
30 - FF- 5 1/2" blow
45 - FS- No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1565.88	89.79	Initial Hydro-static
1	36.90	88.83	Open To Flow (1)
29	77.08	97.85	Shut-In(1)
75	1034.94	97.46	End Shut-In(1)
76	80.86	98.33	Open To Flow (2)
104	109.86	103.74	Shut-In(2)
152	1017.78	101.77	End Shut-In(2)
152	1494.09	101.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	WM, 40%W, 60%M	1.46
45.00	Mud w ith oil spots, 100%M	0.63

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Zinszer Oil Co. Inc

2-15s-20w Ellis KS

PO Box 211
Hays, KS 67601

Armbruster #1

Job Ticket: 51557

DST#: 1

ATTN: Perry Henman

Test Start: 2012.11.26 @ 02:27:00

Tool Information

Drill Pipe:	Length: 3198.00 ft	Diameter: 3.80 inches	Volume: 44.86 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 46000.00 lb
			<u>Total Volume: 45.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3229.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	76.00 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			3210.00	
Shut In Tool	5.00			3215.00	
Hydraulic tool	5.00			3220.00	
Packer	4.00			3224.00	20.00 Bottom Of Top Packer
Packer	5.00			3229.00	
Perforations	3.00			3232.00	
Change Over Sub	1.00			3233.00	
Drill Pipe	31.00			3264.00	
Change Over Sub	1.00			3265.00	
Recorder	0.00	8321	Inside	3265.00	
Recorder	0.00	8737	Outside	3265.00	
Perforations	17.00			3282.00	
Bullnose	3.00			3285.00	56.00 Bottom Packers & Anchor

Total Tool Length: 76.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Zinszer Oil Co. Inc

2-15s-20w Ellis KS

PO Box 211
Hays, KS 67601

Armbruster #1

Job Ticket: 51557

DST#: 1

ATTN: Perry Henman

Test Start: 2012.11.26 @ 02:27:00

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

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
124.00	WM, 40%W, 60%M	1.457
45.00	Mud with oil spots, 100%M	0.631

Total Length: 169.00 ft

Total Volume: 2.088 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

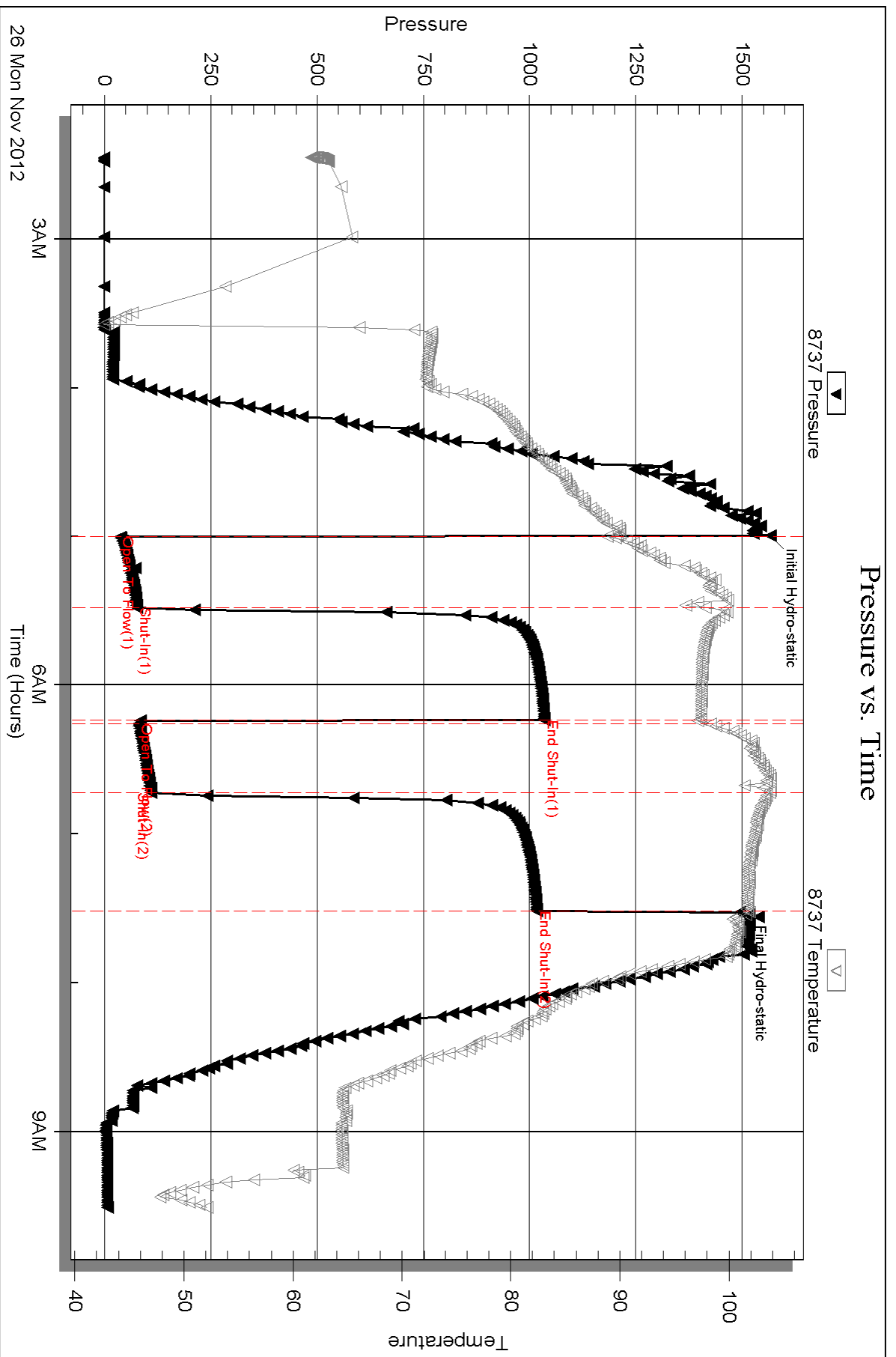
Recovery Comments:

Serial #: 8737

Outside Zinszer Oil Co. Inc

Armbruster #1

DST Test Number: 1



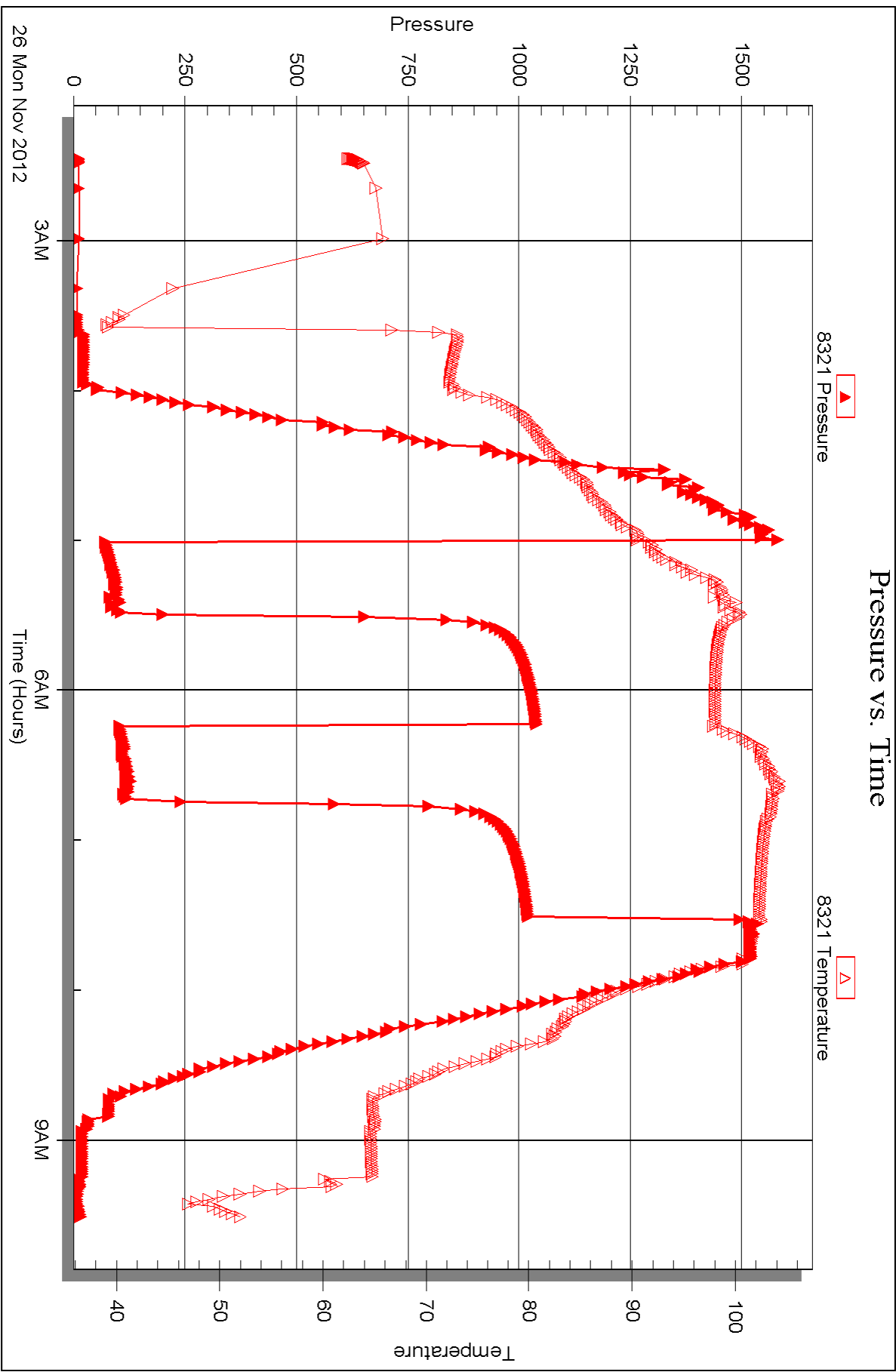
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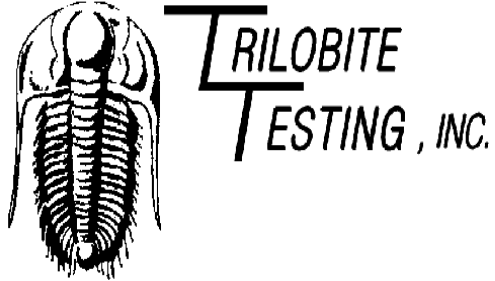
Inside

Zinszer Oil Co. Inc

Arnbruster #1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Zinszer Oil Co. Inc**

PO Box 211
Hays, KS 67601

ATTN: Perry Henman

Armbruster #1

2-15s-20w Ellis KS

Start Date: 2012.11.26 @ 20:30:00

End Date: 2012.11.27 @ 02:58:30

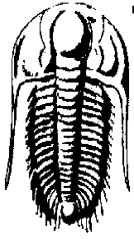
Job Ticket #: 51558 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.30 @ 15:11:12



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Zinszer Oil Co. Inc

2-15s-20w Ellis KS

PO Box 211
Hays, KS 67601

Armbruster #1

Job Ticket: 51558

DST#: 2

ATTN: Perry Henman

Test Start: 2012.11.26 @ 20:30:00

GENERAL INFORMATION:

Formation: **Toronto - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:19:30

Time Test Ended: 02:58:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 44

Interval: 3336.00 ft (KB) To 3410.00 ft (KB) (TVD)

Reference Elevations: 2053.00 ft (KB)

Total Depth: 3410.00 ft (KB) (TVD)

2048.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8737 Outside

Press @ Run Depth: 197.01 psig @ 3375.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.11.26

End Date:

2012.11.27

Last Calib.:

2012.11.27

Start Time: 20:30:01

End Time:

02:58:30

Time On Btm:

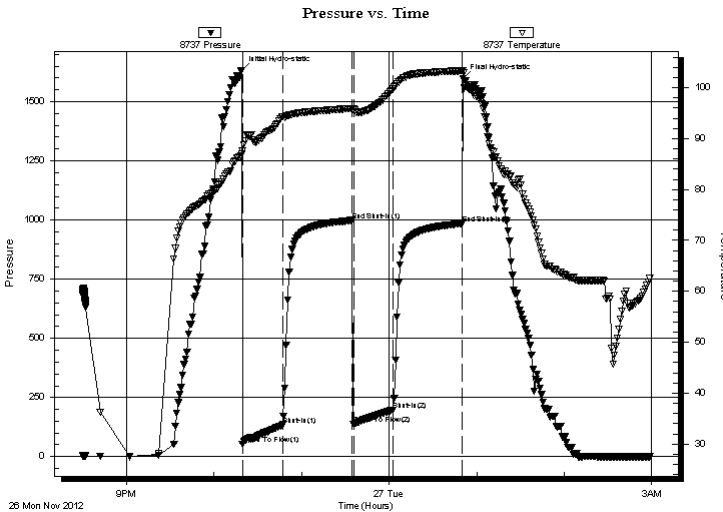
2012.11.26 @ 22:19:00

Time Off Btm:

2012.11.27 @ 00:50:30

TEST COMMENT: 30 - IF- B.O.B. in 4 Minutes
45 - IS- Surface blow throughout
30 - FF- B.O.B. in 5 Minutes
45 - FS-

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1632.15	86.91	Initial Hydro-static
1	53.24	87.61	Open To Flow (1)
28	134.66	94.31	Shut-In(1)
76	998.52	95.90	End Shut-In(1)
77	135.60	95.75	Open To Flow (2)
104	197.01	99.74	Shut-In(2)
151	984.57	103.29	End Shut-In(2)
152	1597.04	103.37	Final Hydro-static

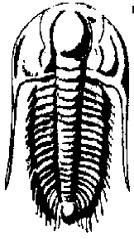
Recovery

Length (ft)	Description	Volume (bbl)
93.00	GV SOCM, 5%G, 5%O, 90%M	1.02
186.00	GMCO, 10%M, 30%G, 60%O	2.61
124.00	GMCWO, 5%M, 10%W, 25%G, 60%O	1.74
0.00	1178' of G.I.P.	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Zinszer Oil Co. Inc

2-15s-20w Ellis KS

PO Box 211
Hays, KS 67601

Armbruster #1

Job Ticket: 51558

DST#: 2

ATTN: Perry Henman

Test Start: 2012.11.26 @ 20:30:00

Tool Information

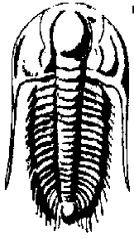
Drill Pipe:	Length: 3292.00 ft	Diameter: 3.80 inches	Volume: 46.18 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 48000.00 lb
			Total Volume: 46.33 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3336.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	74.00 ft			
Tool Length:	94.00 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			3317.00	
Shut In Tool	5.00			3322.00	
Hydraulic tool	5.00			3327.00	
Packer	4.00			3331.00	20.00 Bottom Of Top Packer
Packer	5.00			3336.00	
Perforations	6.00			3342.00	
Change Over Sub	1.00			3343.00	
Drill Pipe	31.00			3374.00	
Change Over Sub	1.00			3375.00	
Recorder	0.00	8321	Inside	3375.00	
Recorder	0.00	8737	Outside	3375.00	
Perforations	32.00			3407.00	
Bullnose	3.00			3410.00	74.00 Bottom Packers & Anchor

Total Tool Length: 94.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Zinszer Oil Co. Inc

2-15s-20w Ellis KS

PO Box 211
Hays, KS 67601

Armbruster #1

Job Ticket: 51558

DST#: 2

ATTN: Perry Henman

Test Start: 2012.11.26 @ 20:30:00

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

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 bbbl
93.00	GVSOCM, 5%G, 5%O, 90%M	1.022
186.00	GMCO, 10%M, 30%G, 60%O	2.609
124.00	GMCWO, 5%M, 10%W, 25%G, 60%O	1.739
0.00	1178' of G.I.P.	0.000

Total Length: 403.00 ft

Total Volume: 5.370 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

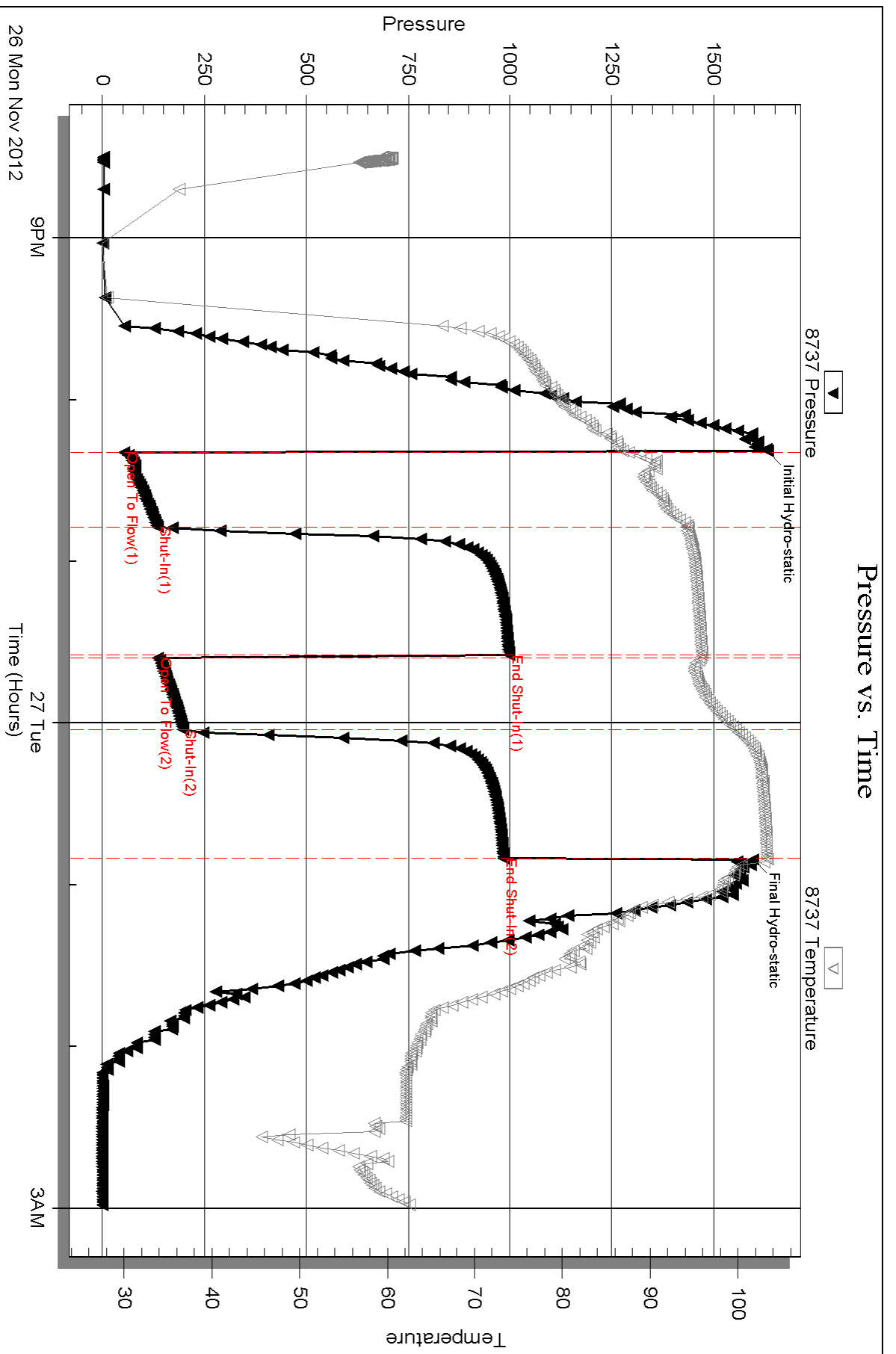
Recovery Comments:

Serial #: 8737

Outside Zinszer Oil Co. Inc

Armbruster #1

DST Test Number: 2



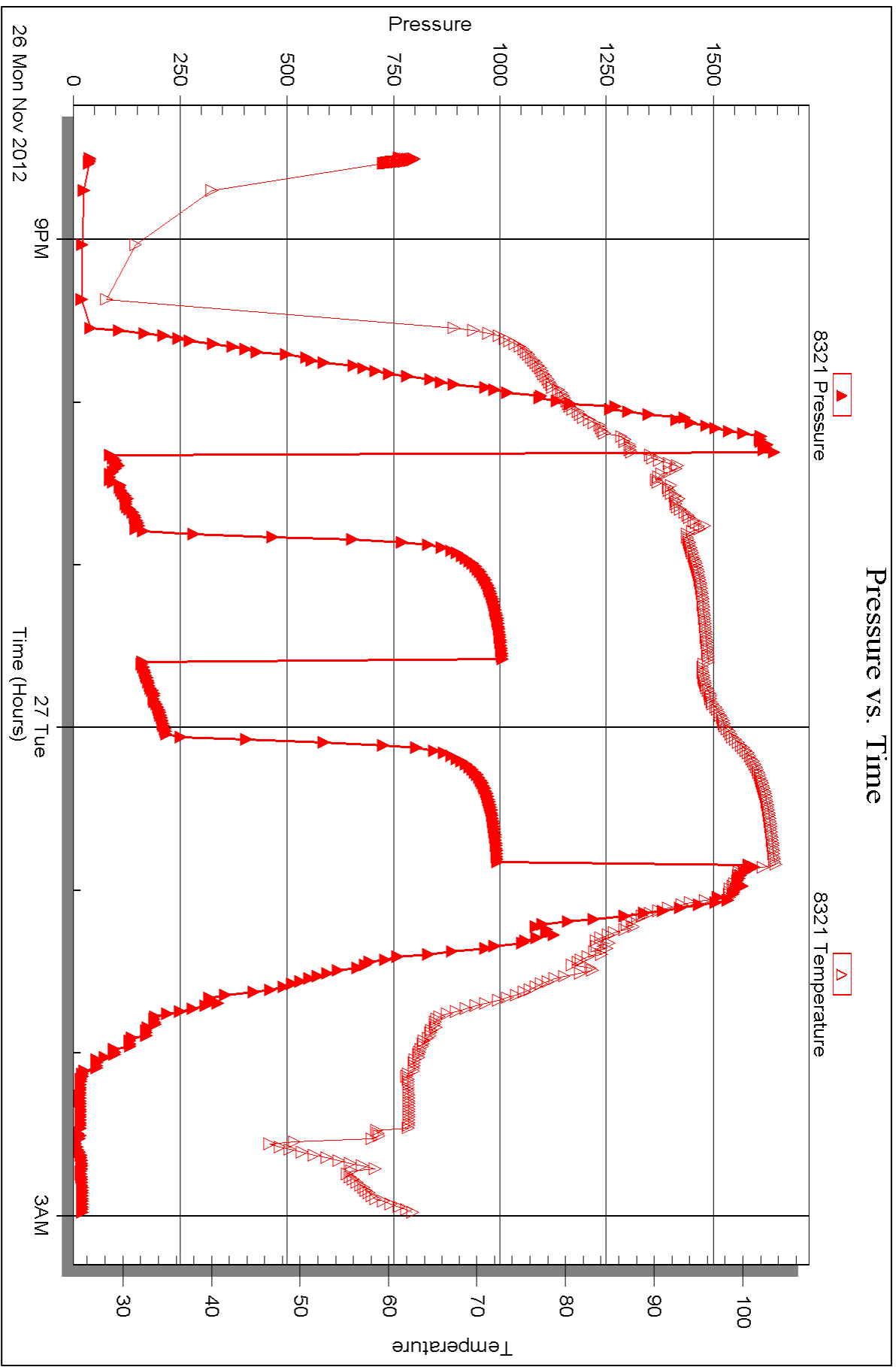
Serial #: 8321

Inside

Zinszer Oil Co. Inc

Armbruster #1

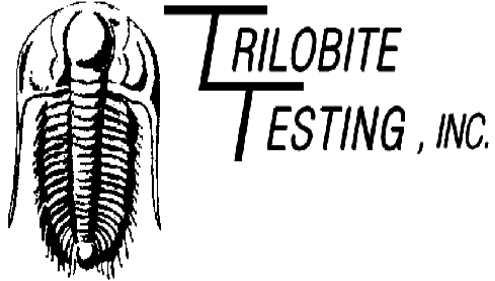
DST Test Number: 2



Triobite Testing, Inc

Ref. No: 51558

Printed: 2012.11.30 @ 15:11:17



DRILL STEM TEST REPORT

Prepared For: **Zinszer Oil Co. Inc**

PO Box 211
Hays, KS 67601

ATTN: Perry Henman

Armbruster #1

2-15s-20w Ellis KS

Start Date: 2012.11.27 @ 14:46:00

End Date: 2012.11.27 @ 21:12:30

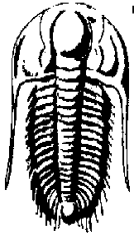
Job Ticket #: 51559 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.30 @ 15:10:23



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Zinszer Oil Co. Inc

2-15s-20w Ellis KS

PO Box 211
Hays, KS 67601

Armbruster #1

Job Ticket: 51559

DST#: 3

ATTN: Perry Henman

Test Start: 2012.11.27 @ 14:46:00

GENERAL INFORMATION:

Formation: **H,I,J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:59:00

Time Test Ended: 21:12:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 44

Interval: 3477.00 ft (KB) To 3540.00 ft (KB) (TVD)

Reference Elevations: 2053.00 ft (KB)

Total Depth: 3540.00 ft (KB) (TVD)

2048.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8737 Outside

Press @ Run Depth: 48.95 psig @ 3516.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.11.27

End Date: 2012.11.27

Last Calib.: 2012.11.27

Start Time: 14:46:01

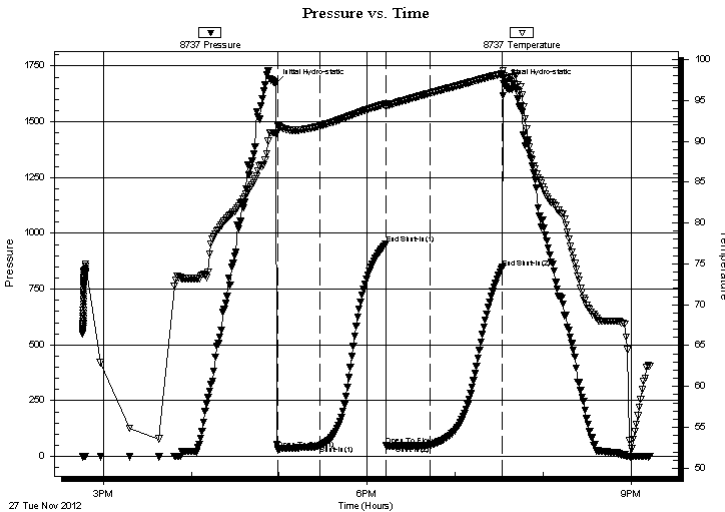
End Time: 21:12:30

Time On Btm: 2012.11.27 @ 16:57:30

Time Off Btm: 2012.11.27 @ 19:33:00

TEST COMMENT: 30 - IF- 3/4" blow
45 - IS- No blow back
30 - FF- 1/2" blow
45 - FS- No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1671.73	90.97	Initial Hydro-static
2	33.20	91.88	Open To Flow (1)
31	48.11	91.90	Shut-In(1)
75	951.59	94.57	End Shut-In(1)
76	49.09	94.25	Open To Flow (2)
105	48.95	95.86	Shut-In(2)
155	846.48	98.24	End Shut-In(2)
156	1668.92	98.08	Final Hydro-static

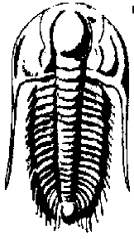
Recovery

Length (ft)	Description	Volume (bbl)
40.00	Mud w ith oil spots, 100%M	0.28

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Zinszer Oil Co. Inc

2-15s-20w Ellis KS

PO Box 211
Hays, KS 67601

Armbruster #1

Job Ticket: 51559

DST#: 3

ATTN: Perry Henman

Test Start: 2012.11.27 @ 14:46:00

Tool Information

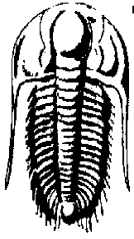
Drill Pipe:	Length: 3448.00 ft	Diameter: 3.80 inches	Volume: 48.37 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 48000.00 lb
			<u>Total Volume: 48.52 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3477.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	63.00 ft			
Tool Length:	83.00 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			3458.00	
Shut In Tool	5.00			3463.00	
Hydraulic tool	5.00			3468.00	
Packer	4.00			3472.00	20.00 Bottom Of Top Packer
Packer	5.00			3477.00	
Perforations	6.00			3483.00	
Change Over Sub	1.00			3484.00	
Drill Pipe	31.00			3515.00	
Change Over Sub	1.00			3516.00	
Recorder	0.00	8321	Inside	3516.00	
Recorder	0.00	8737	Outside	3516.00	
Perforations	21.00			3537.00	
Bullnose	3.00			3540.00	63.00 Bottom Packers & Anchor

Total Tool Length: 83.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Zinszer Oil Co. Inc

2-15s-20w Ellis KS

PO Box 211
Hays, KS 67601

Armbruster #1

Job Ticket: 51559

DST#: 3

ATTN: Perry Henman

Test Start: 2012.11.27 @ 14:46:00

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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	Mud w ith oil spots, 100%M	0.279

Total Length: 40.00 ft Total Volume: 0.279 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

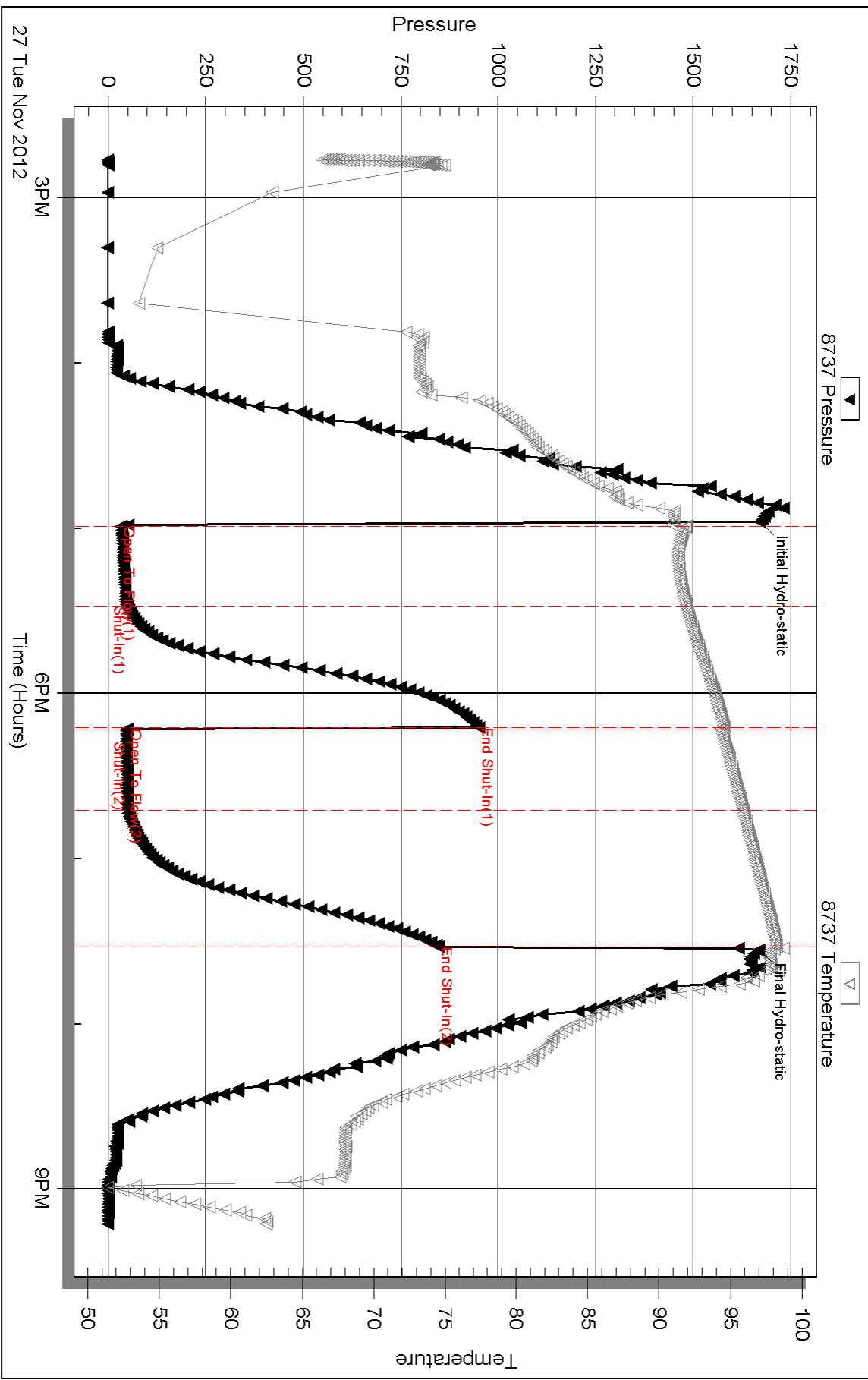
Serial #: 8737

Outside Zinszer Oil Co. Inc

Armbruster #1

DST Test Number: 3

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 51559

Printed: 2012.11.30 @ 15:10:27

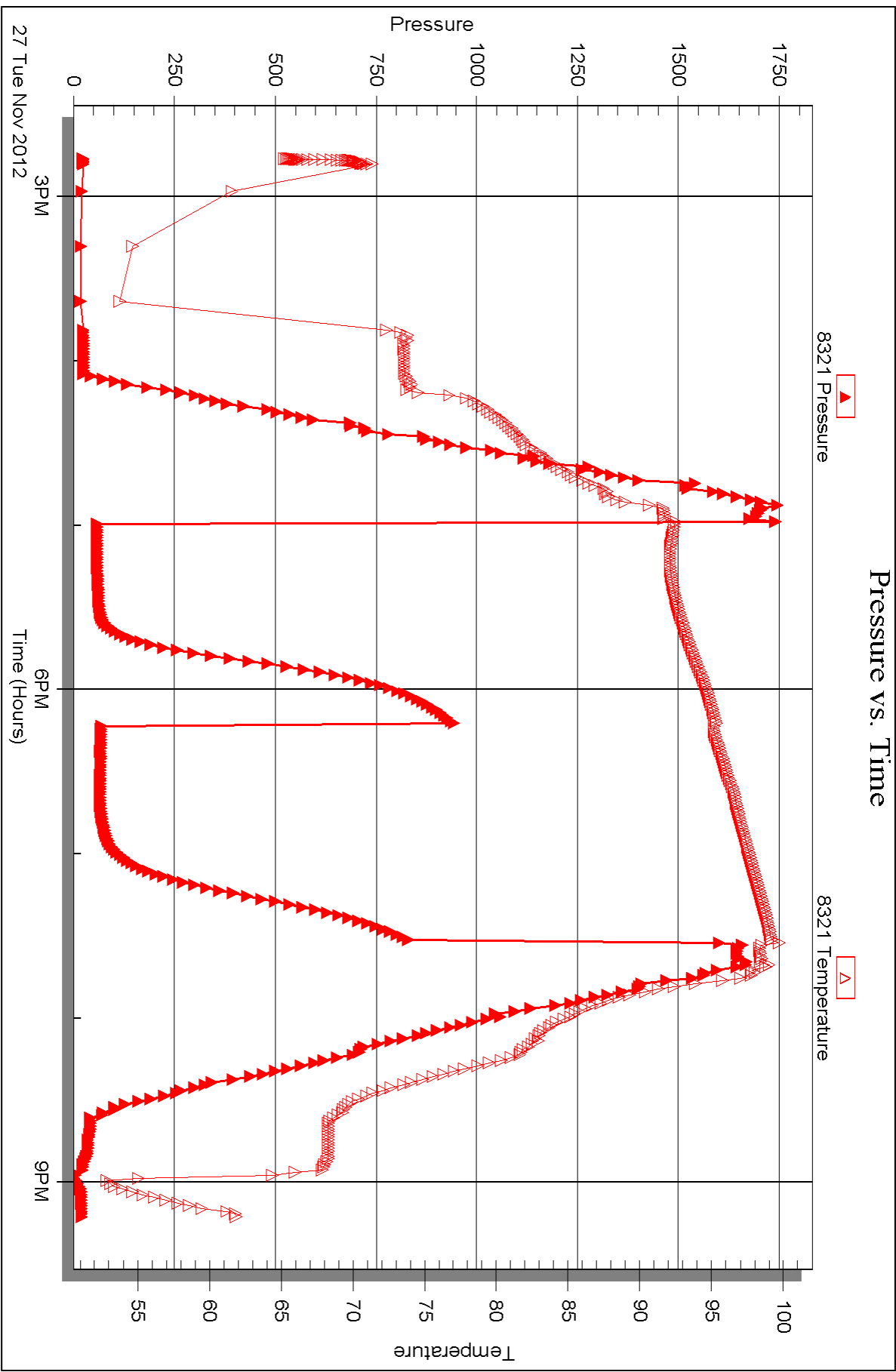
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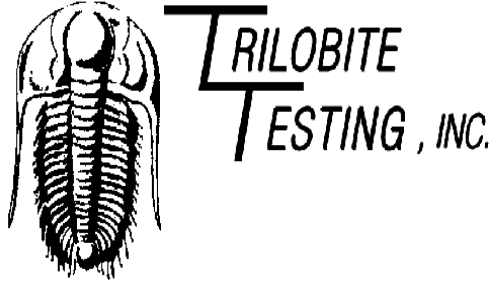
Inside

Zinszer Oil Co. Inc

Armbruster #1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Zinszer Oil Co. Inc**

PO Box 211
Hays, KS 67601

ATTN: Perry Henman

Armbruster #1

2-15s-20w Ellis KS

Start Date: 2012.11.28 @ 09:13:15

End Date: 2012.11.28 @ 16:20:45

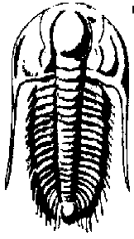
Job Ticket #: 44319 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.30 @ 15:09:22



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Zinszer Oil Co. Inc

2-15s-20w Ellis KS

PO Box 211
Hays, KS 67601

Armbruster #1

Job Ticket: 44319

DST#: 4

ATTN: Perry Henman

Test Start: 2012.11.28 @ 09:13:15

GENERAL INFORMATION:

Formation: **Conglomerate**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:35:45

Time Test Ended: 16:20:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 44

Interval: 3670.00 ft (KB) To 3692.00 ft (KB) (TVD)

Reference Elevations: 2053.00 ft (KB)

Total Depth: 3692.00 ft (KB) (TVD)

2048.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8321

Inside

Press @ Run Depth: 58.77 psig @ 3671.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.11.28

End Date:

2012.11.28

Last Calib.:

2012.11.28

Start Time: 09:13:16

End Time:

16:17:45

Time On Btm:

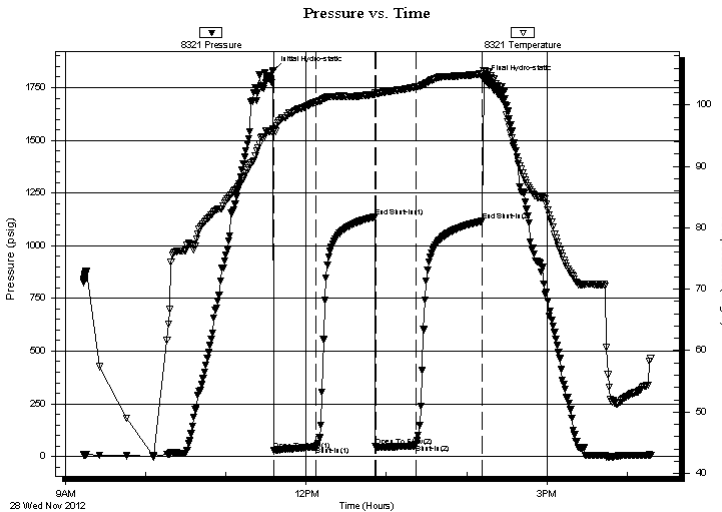
2012.11.28 @ 11:35:15

Time Off Btm:

2012.11.28 @ 14:12:45

TEST COMMENT: IFP=Fair blow built to 5 1/4"
ISI=Weak surface blow back built to 1/8"
FFP=Fair blow built to 4 1/2"
FSI=Weak surface blow back built to 1/8"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1831.41	96.08	Initial Hydro-static
1	27.43	95.72	Open To Flow (1)
32	47.76	100.47	Shut-In(1)
76	1136.83	101.74	End Shut-In(1)
77	46.99	102.04	Open To Flow (2)
107	58.77	102.90	Shut-In(2)
157	1116.91	105.07	End Shut-In(2)
158	1787.14	105.57	Final Hydro-static

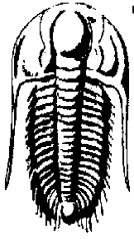
Recovery

Length (ft)	Description	Volume (bbl)
20.00	MCO 50%M 50%O	0.10
58.00	Free Oil	0.71

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Zinszer Oil Co. Inc

2-15s-20w Ellis KS

PO Box 211
Hays, KS 67601

Armbruster #1

Job Ticket: 44319

DST#: 4

ATTN: Perry Henman

Test Start: 2012.11.28 @ 09:13:15

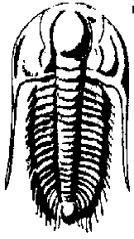
Tool Information

Drill Pipe:	Length: 3637.00 ft	Diameter: 3.80 inches	Volume: 51.02 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 48000.00 lb
			<u>Total Volume: 51.17 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3670.00 ft			Final 46000.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3651.00	
Shut In Tool	5.00			3656.00	
Hydraulic tool	5.00			3661.00	
Packer	4.00			3665.00	20.00 Bottom Of Top Packer
Packer	5.00			3670.00	
Stubb	1.00			3671.00	
Recorder	0.00	8321	Inside	3671.00	
Recorder	0.00	8737	Outside	3671.00	
Perforations	18.00			3689.00	
Bullnose	3.00			3692.00	22.00 Bottom Packers & Anchor
Total Tool Length:	42.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Zinszer Oil Co. Inc

2-15s-20w Ellis KS

PO Box 211
Hays, KS 67601

Armbruster #1

Job Ticket: 44319

DST#: 4

ATTN: Perry Henman

Test Start: 2012.11.28 @ 09:13:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	MCO 50%M 50%O	0.098
58.00	Free Oil	0.713

Total Length: 78.00 ft Total Volume: 0.811 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8321

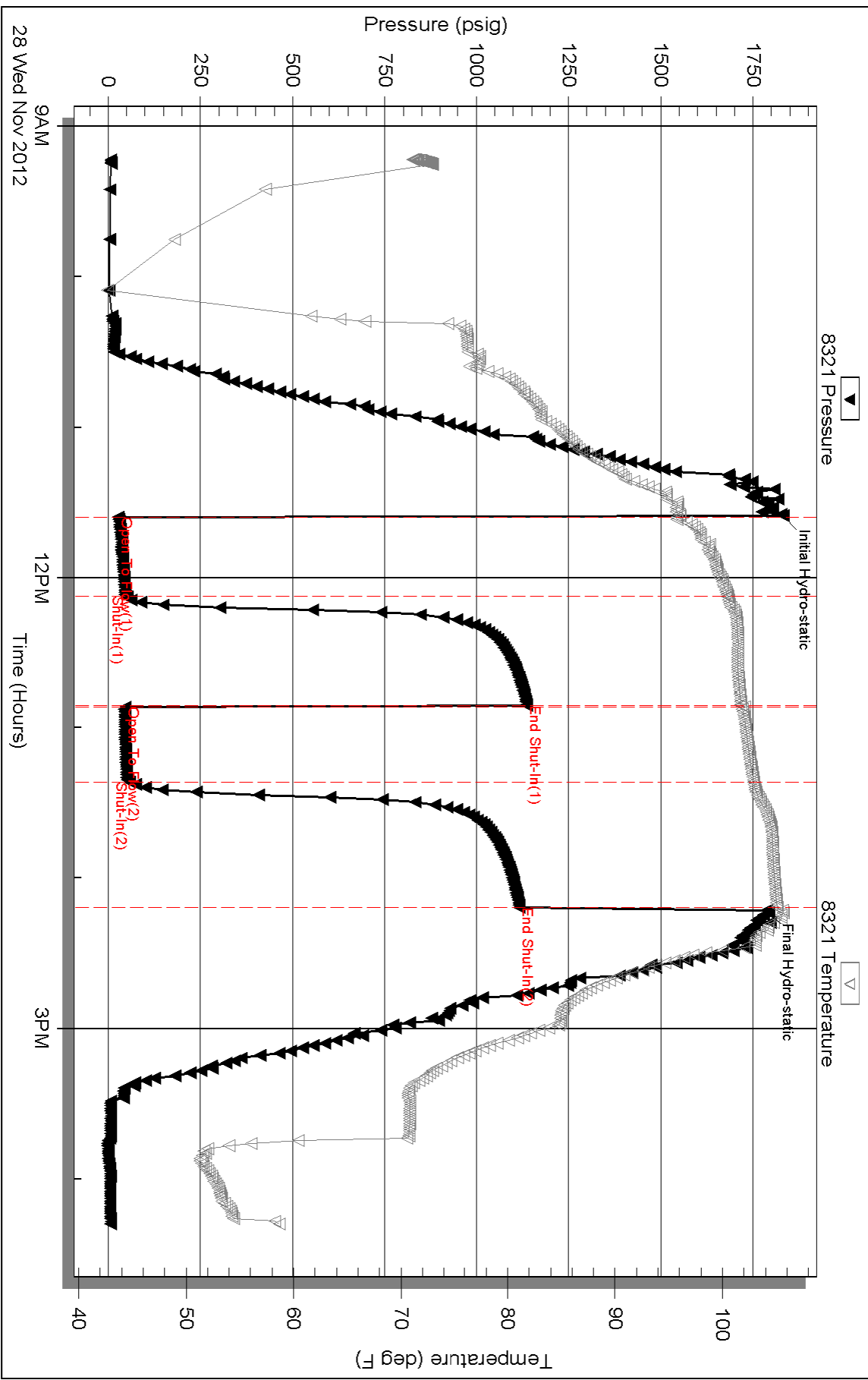
Inside

Zinszer Oil Co. Inc

Armbruster #1

DST Test Number: 4

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 44319

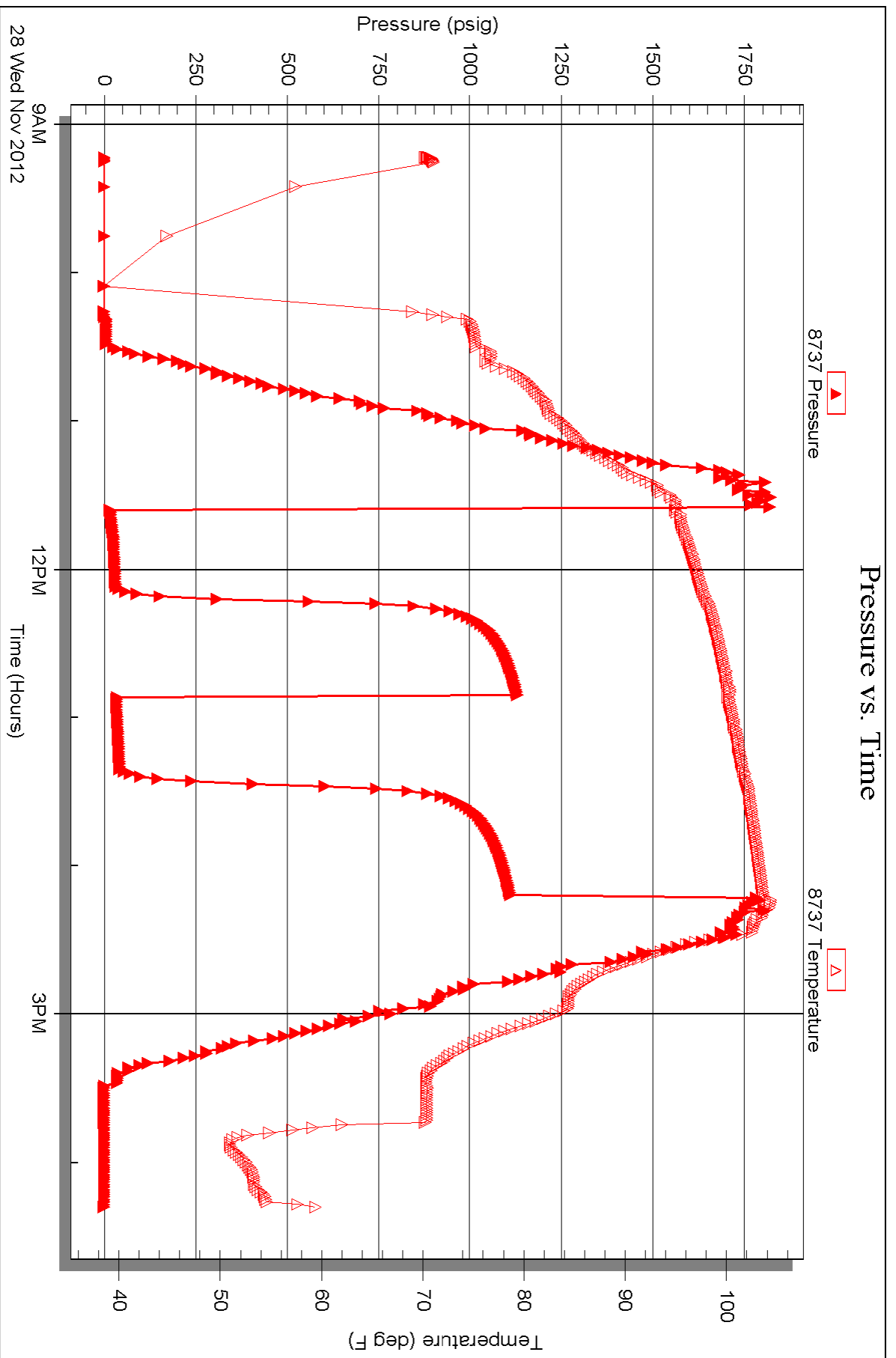
Printed: 2012.11.30 @ 15:09:26

Serial #: 8737

Outside Zinszer Oil Co. Inc

Arnbruster #1

DST Test Number: 4





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51557

Well Name & No. Armbruster #1 Test No. 1 Date 11-26-12
 Company Zinszer Oil Co Inc Elevation 2053 KB 2048 GL
 Address Po Box 211, Hays KS, 67601
 Co. Rep / Geo. Perry Henman Rig Discovery #4
 Location: Sec. 2 Twp. 15S Rge. 20W Co. Ellis State KS

Interval Tested 3229-3285 Zone Tested Topeka
 Anchor Length 56' Drill Pipe Run 3198' Mud Wt. 8.6
 Top Packer Depth 3224 Drill Collars Run 31' Vis 56
 Bottom Packer Depth 3229 Wt. Pipe Run — WL 7.6
 Total Depth 3285 Chlorides 3,000 ppm System LCM —
 Blow Description IF-9 1/2" blow
ISI- No blow back
FF-5 1/2" blow
FSI- No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>124</u>	<u>WM</u>		<u>40</u>	<u>60</u>	
<u>45</u>	<u>Mud with oil spots</u>			<u>100</u>	

Rec Total 169' BHT 101° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1565</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1:51 am</u>
(B) First Initial Flow <u>36</u>	<input type="checkbox"/> Jars	T-Started <u>2:27 am</u>
(C) First Final Flow <u>77</u>	<input type="checkbox"/> Safety Joint	T-Open <u>5:00 am</u>
(D) Initial Shut-In <u>1034</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>7:30 am</u>
(E) Second Initial Flow <u>80</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:31 am</u>
(F) Second Final Flow <u>109</u>	<input checked="" type="checkbox"/> Mileage <u>HORT 62</u>	Comments <u>Cody - 785-639-5280</u>
(G) Final Shut-In <u>1017</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1494</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby	Total <u>1212</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1212</u>	

Approved By _____ Our Representative Cody Bleedorn

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. 51558

Well Name & No. Armbruster #1 Test No. 2 Date 11-26-12
 Company Zinszer Oil Co Inc Elevation 2053 KB 2048 GL
 Address Po Box 211, Hays KS, 67601
 Co. Rep / Geo. Perry Henman Rig Discovery #4
 Location: Sec. 2 Twp. 15s Rge. 20W Co. Ellis State KS

Interval Tested 3336 - 3410 Zone Tested Toronto - LKC "D"
 Anchor Length 74' Drill Pipe Run 3292' Mud Wt. 8.8
 Top Packer Depth 3331 Drill Collars Run 31' Vis 53
 Bottom Packer Depth 3336 Wt. Pipe Run — WL 8.0
 Total Depth 3410 Chlorides 3,000 ppm System LCM —

Blow Description IF - B.O.B. in 4 Minutes
ISI - Surface blow
FF - B.O.B. in 5 Minutes
FSI -

Rec	Feet of	%gas	%oil	%water	%mud
124	GMCWO	25	60	10	5
186	GMCO	30	60	10	10
93	GVSOCM	5	5	90	90
—	1178' of G.I.P	—	—	—	—

Rec Total 403 BHT 103° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 1632 Test 1150 T-On Location 8:11 pm
 (B) First Initial Flow 53 Jars — T-Started 8:30 pm
 (C) First Final Flow 134 Safety Joint — T-Open 10:20 pm
 (D) Initial Shut-In 998 Circ Sub — T-Pulled 12:50 a.m.
 (E) Second Initial Flow 135 Hourly Standby — T-Out 3:00 am
 (F) Second Final Flow 197 Mileage 40 RT 62 Comments —
 (G) Final Shut-In 984 Sampler —
 (H) Final Hydrostatic 1597 Straddle — Ruined Shale Packer —

Initial Open 30 Shale Packer — Ruined Packer —
 Initial Shut-In 45 Extra Packer — Extra Copies —
 Final Flow 30 Extra Recorder — Sub Total 0
 Final Shut-In 45 Day Standby — Total 1212
 Accessibility — MP/DST Disc't —
 Sub Total 1212

Approved By _____ Our Representative Cody Blair

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51559

4/10

Well Name & No. Arm bruster #1 Test No. 3 Date 11-27-12
 Company Zinszer oil Co. INC. Elevation 2053 KB 2048 GL
 Address Po Box 211, Hays KS, 67601
 Co. Rep / Geo. Perry Henman Rig Discovery #4
 Location: Sec. 2 Twp. 15S Rge. 20W Co. Ellis State KS

Interval Tested 3477-3540 Zone Tested "H,I,J"
 Anchor Length 63' Drill Pipe Run 3448' Mud Wt. 8.8
 Top Packer Depth 3472 Drill Collars Run 31' Vis 54
 Bottom Packer Depth 3477 Wt. Pipe Run - WL 8.8
 Total Depth 3540 Chlorides 5,000 ppm System LCM -

Blow Description IF- 3/4" blow
ISI- No blow back
FF- 1/2" blow
FSI- No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>Mud with oil spots</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 40 BHT 98° Gravity - API RW - @ - F Chlorides - ppm

(A) Initial Hydrostatic 1671 Test 1150 T-On Location 2:27pm
 (B) First Initial Flow 33 Jars _____ T-Started 2:46pm
 (C) First Final Flow 48 Safety Joint _____ T-Open 4:55pm
 (D) Initial Shut-In 951 Circ Sub _____ T-Pulled 7:25pm
 (E) Second Initial Flow 49 Hourly Standby _____ T-Out 9:09pm
 (F) Second Final Flow 48 Mileage 40x2 62
 (G) Final Shut-In 846 Sampler _____
 (H) Final Hydrostatic 1668 Straddle _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 45 Ruined Packer _____
 Final Flow 30 Extra Packer _____
 Final Shut-In 45 Extra Recorder _____
 Sub Total 0
 Total 1212
 MP/DST Disc't _____
 Sub Total 1212

Approved By _____ Our Representative Cody R

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 44319

Well Name & No. Armbruster #1 Test No. 4 Date 11-28-12
 Company Zinszer Oil Co INC Elevation 2053 KB 2048 GL
 Address PO Box 211 Hays KS 67601
 Co. Rep / Geo. Perry Henman Rig Discovery #4
 Location: Sec. 2 Twp. 15S Rge. 20W Co. ELL's State KS

Interval Tested 3670-3692 Zone Tested CONGLOMERATE
 Anchor Length 22 Drill Pipe Run 3637 Mud Wt. 8.8
 Top Packer Depth 3665 Drill Collars Run 30 Vis 54
 Bottom Packer Depth 3670 Wt. Pipe Run 0 WL 2.8
 Total Depth 3692 Chlorides 5000 ppm System LCM 3

Blow Description FF-Fair Blow Built TO 5 1/4 IN
1st-Weak surface Blow Back Built TO 1/8 IN
FF-Fair Blow Built TO 4 1/2 IN
FSL-Weak surface Blow Back Built TO 1/8 IN

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>MCO</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>
<u>58</u>	<u>Free oil</u>	<u>100</u>	<u>100</u>		

Rec Total 78 BHT 105 Gravity 28 API RW @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1831 Test 1150 T-On Location 8:44
 (B) First Initial Flow 27 Jars _____ T-Started 9:13
 (C) First Final Flow 48 Safety Joint _____ T-Open 11:37
 (D) Initial Shut-In 1137 Circ Sub _____ T-Pulled ~~12:07~~ 14:07
 (E) Second Initial Flow 47 Hourly Standby _____ T-Out 16:20
 (F) Second Final Flow 59 Mileage 62 Comments _____
 (G) Final Shut-In 1117 Sampler _____
 (H) Final Hydrostatic 1787 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1212
 Accessibility _____ MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 45
 Final Flow 30
 Final Shut-In 45
 Sub Total 1212

Approved By _____ Our Representative Jeff Brown

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