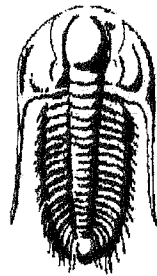


15-101-21890

28-18s-29w



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DEC 30 2005

**CONSERVATION DIVISION
WICHITA, KS**

DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co.**

562 W HW. 4 Olmitz, KS 67564

ATTN: Tom Furk

28/18S/29 W

2-28 Stanley

Start Date: 2005.09.18 @ 15:58:24

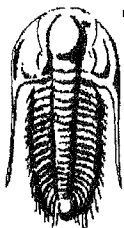
End Date: 2005.09.18 @ 20:40:34

Job Ticket #: 22447 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Operating Co.
562 W HW. 4 Olmitz, KS 67564
ATTN: Tom Furk

2-28 Stanley
28/18S/29 W
Job Ticket: 22447 **DST#: 1**
Test Start: 2005.09.18 @ 15:58:24

GENERAL INFORMATION:

Formation: **Lans. E-F**
Deviated: No Whipstock ft (KB)
Time Tool Opened: 17:38:14
Time Test Ended: 20:40:34

Test Type: Conventional Bottom Hole
Tester: Chris Hagman
Unit No: 34

Interval: **4031.00 ft (KB) To 4055.00 ft (KB) (TVD)**
Total Depth: 4055.00 ft (KB) (TVD)
Hole Diameter: 7.78 inches Hole Condition: Good

Reference Elevations: 2824.00 ft (KB)
2819.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: 26.18 psig @ 4033.00 ft (KB)
Start Date: 2005.09.18 End Date: 2005.09.18
Start Time: 15:58:24 End Time: 20:40:34

Capacity: 7000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2005.09.18 @ 17:35:54
Time Off Btm: 2005.09.18 @ 19:40:34

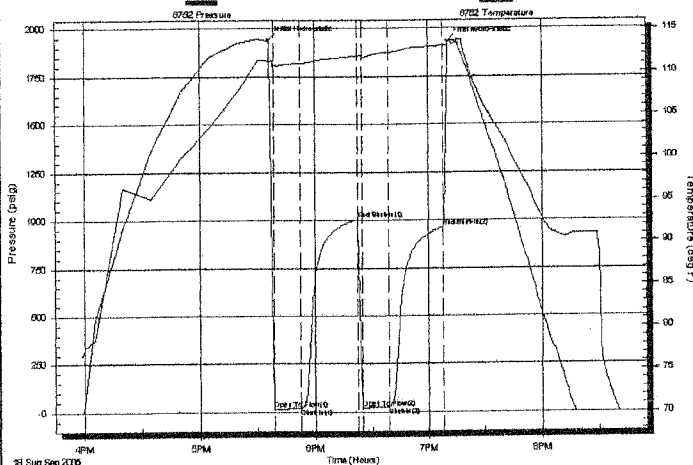
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TEST COMMENT: IF: Weak surface blow, died 10 min.
IS: No blow back
FF: No blow
FS: No blow back

Pressure vs. Time



PRESSURE SUMMARY

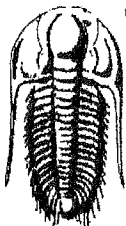
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1942.73	111.29	Initial Hydro-static
3	15.47	110.07	Open To Flow (1)
17	20.74	111.02	Shut-In(1)
47	1004.17	111.86	End Shut-In(1)
49	22.34	111.72	Open To Flow(2)
63	26.18	112.27	Shut-In(2)
93	962.81	113.08	End Shut-In(2)
95	1932.02	113.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	5%G,15%O,80%M	0.10

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating Co.
562 W HW. 4 Olmitz, KS 67564
ATTN: Tom Furk

2-28 Stanley
28/18S/29 W
Job Ticket: 22447 **DST#: 1**
Test Start: 2005.09.18 @ 15:58:24

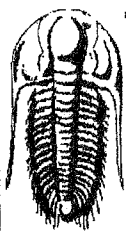
Tool Information

Drill Pipe:	Length: 3909.00 ft	Diameter: 3.80 inches	Volume: 54.83 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 125.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 55000.00 lb
		Total Volume:	55.44 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	4031.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	52.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

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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	
Jars	5.00			4019.00	
Safety Joint	3.00			4022.00	
Packer	5.00			4027.00	28.00 Bottom Of Top Packer
Packer	4.00			4031.00	
Stubb	1.00			4032.00	
Perforations	1.00			4033.00	
Recorder	0.00	6752	Inside	4033.00	
Perforations	19.00			4052.00	
Recorder	0.00	13630	Inside	4052.00	
Bullnose	3.00			4055.00	24.00 Bottom Packers & Anchor

Total Tool Length: 52.00



TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Operating Co.
562 W HW. 4 Olmitz, KS 67564
ATTN: Tom Furk

2-28 Stanley
28/18S/29 W
Job Ticket: 22447 **DST#: 1**
Test Start: 2005.09.18 @ 15:58:24

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 48.00 sec/qt
Water Loss: 7.98 in³
Resistivity: ohm.m
Salinity: 1500.00 ppm
Filter Cake: inches

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

Oil API: deg API
Water Salinity: 3800 ppm

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Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	5%G, 15%O, 80%M	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: RW=1.440@80F=3800ppm

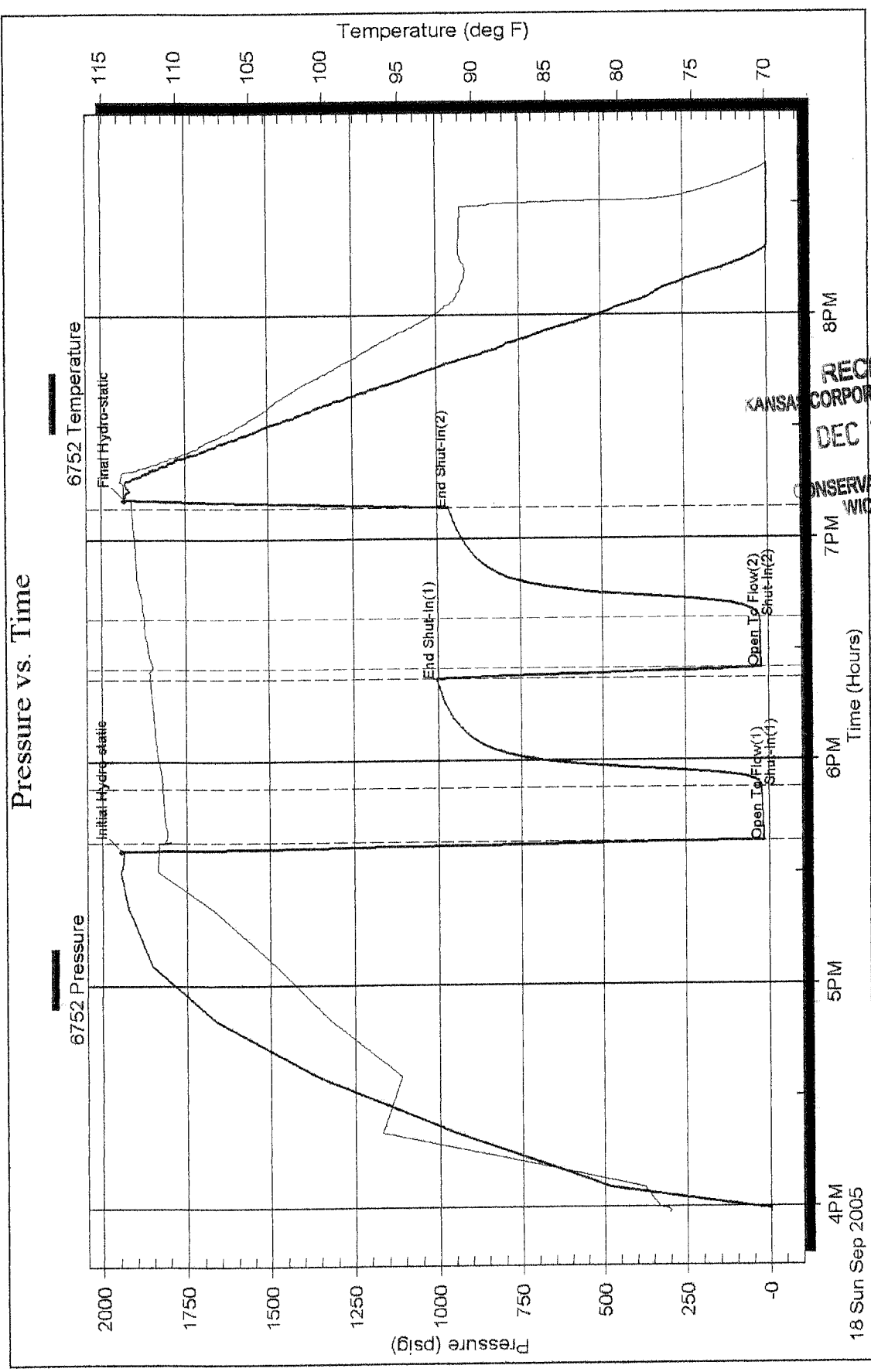
CONSERVATION DIVISION
WICHITA, KS

DST Test Number: 1

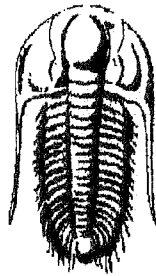
28/18S/29 W

Serial #: 6752 Inside Larson Operating Co.

Pressure vs. Time



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DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co.**

562 W HW. 4 Olmitz, KS 67564

ATTN: Tom Furk

28/18S/29 W

2-28 Stanley

Start Date: 2005.09.19 @ 11:31:34

End Date: 2005.09.19 @ 19:40:04

Job Ticket #: 22448

DST #: 2

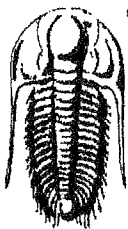
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WICHITA, KS

Larson Operating Co.

2-28 Stanley

28/18S/29 W

DST # 2



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Operating Co.
562 W HW. 4 Olmitz, KS 67564
ATTN: Tom Furk

2-28 Stanley
28/18S/29 W
Job Ticket: 22448 **DST#: 2**
Test Start: 2005.09.19 @ 11:31:34

GENERAL INFORMATION:

Formation: **Lansing I**
Deviated: No Whipstock ft (KB)
Time Tool Opened: 14:32:24
Time Test Ended: 19:40:04

Test Type: Conventional Bottom Hole
Tester: Chris Hagman
Unit No: 34
Reference Elevations: 2824.00 ft (KB)
2819.00 ft (CF)
KB to GR/CF: 5.00 ft

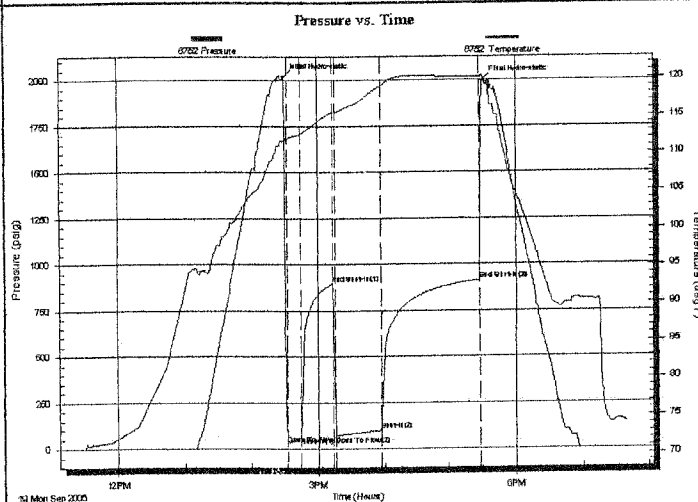
Interval: **4164.00 ft (KB) To 4189.00 ft (KB) (TVD)**
Total Depth: 4189.00 ft (KB) (TVD)
Hole Diameter: 7.78 inches Hole Condition: Good

Serial #: **6752** Inside
Press@RunDepth: 100.00 psig @ 4166.00 ft (KB)
Start Date: 2005.09.19 End Date: 2005.09.19
Start Time: 11:31:34 End Time: 19:40:04
Capacity: 7000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2005.09.19 @ 14:29:24
Time Off Btm: 2005.09.19 @ 17:30:54

TEST COMMENT: IF: 2.5 inches in 15 min, steadily building
IS: No blow back
FF: 2.5 inches in 15 min., fair steady blow
FS: No blow back

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WICHITA, KS



PRESSURE SUMMARY

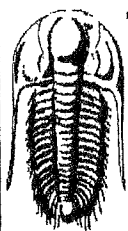
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2018.31	111.54	Initial Hydro-static
3	26.15	111.66	Open To Flow (1)
15	63.67	112.49	Shut-In(1)
45	896.66	115.47	End Shut-In(1)
47	70.61	115.47	Open To Flow (2)
88	100.00	118.95	Shut-In(2)
179	913.75	120.11	End Shut-In(2)
182	1995.74	120.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	5%O, 85%W, 10%M	0.61
62.00	Skim O, 35%W, 65%M	0.87
30.00	100%O	0.42

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating Co.
562 W HW. 4 Olmitz, KS 67564
ATTN: Tom Furk

2-28 Stanley
28/18S/29 W
Job Ticket: 22448 **DST#: 2**
Test Start: 2005.09.19 @ 11:31:34

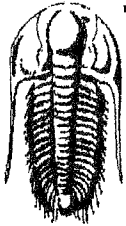
Tool Information

Drill Pipe:	Length: 4032.00 ft	Diameter: 3.80 inches	Volume: 56.56 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 125.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 70000.00 lb
		Total Volume:	57.17 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	4164.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

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Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4137.00	
Shut In Tool	5.00			4142.00	
Hydraulic tool	5.00			4147.00	
Jars	5.00			4152.00	
Safety Joint	3.00			4155.00	
Packer	5.00			4160.00	28.00 Bottom Of Top Packer
Packer	4.00			4164.00	
Stubb	1.00			4165.00	
Perforations	1.00			4166.00	
Recorder	0.00	6752	Inside	4166.00	
Perforations	20.00			4186.00	
Recorder	0.00	13630	Inside	4186.00	
Bullnose	3.00			4189.00	25.00 Bottom Packers & Anchor

Total Tool Length: 53.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Operating Co.
562 W HW. 4 Olmitz, KS 67564
ATTN: Tom Furk

2-28 Stanley
28/18S/29 W
Job Ticket: 22448 **DST#: 2**
Test Start: 2005.09.19 @ 11:31:34

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 53.00 sec/qt
Water Loss: 7.99 in³
Resistivity: ohm.m
Salinity: 3200.00 ppm
Filter Cake: inches

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

Oil API: 38 deg API
Water Salinity: 22500 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	5%O,85%W,10%M	0.615
62.00	Skim O,35%W,65%M	0.870
30.00	100%O	0.421

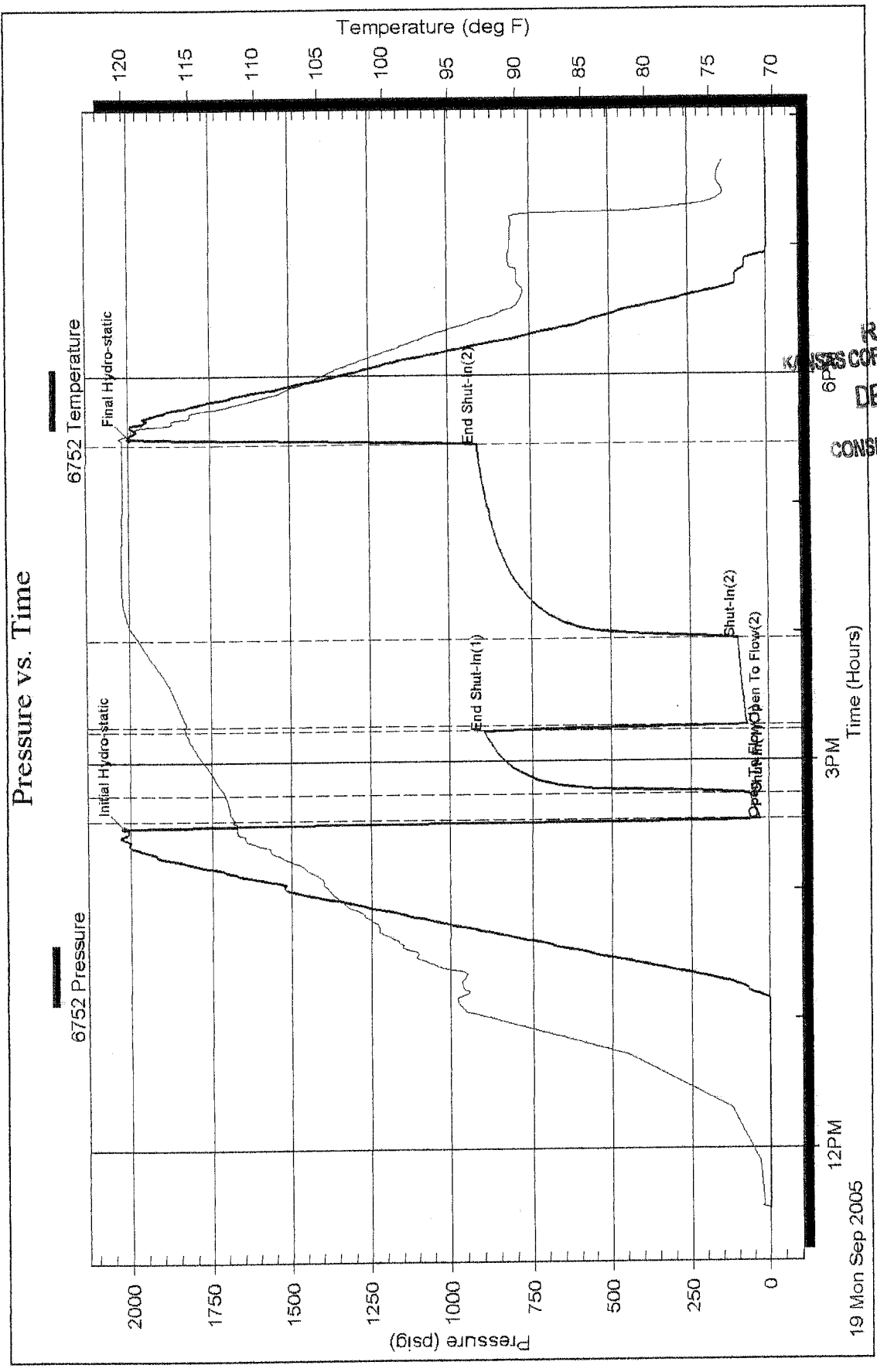
Total Length: 217.00 ft Total Volume: 1.906 bbl

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

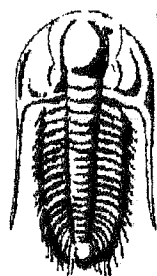
Laboratory Name: Laboratory Location:

Recovery Comments: API=40@84F=38api
RW=.250@84F=22500ppm

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CONSERVATION DIVISION
WICHITA, KS

DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co.**

562 W HW. 4 Olmitz, KS 67564

ATTN: Tom Furk

28/18S/29 W

2-28 Stanley

Start Date: 2005.09.20 @ 11:03:10

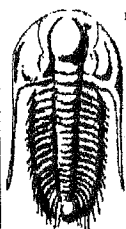
End Date: 2005.09.20 @ 20:00:49

Job Ticket #: 22449 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Operating Co.
562 W HW. 4 Olmitz, KS 67564
ATTN: Tom Furk

2-28 Stanley
28/18S/29 W
Job Ticket: 22449 **DST#: 3**
Test Start: 2005.09.20 @ 11:03:10

GENERAL INFORMATION:

Formation: **Middle Creek**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:58:00
Time Test Ended: 20:00:49

Test Type: Conventional Bottom Hole
Tester: Chris Hagman
Unit No: 34
Reference Elevations: 2824.00 ft (KB)
2819.00 ft (CF)
KB to GR/CF: 5.00 ft

Interval: **4271.00 ft (KB) To 4285.00 ft (KB) (TVD)**
Total Depth: 4285.00 ft (KB) (TVD)
Hole Diameter: 7.78 inches Hole Condition: Good

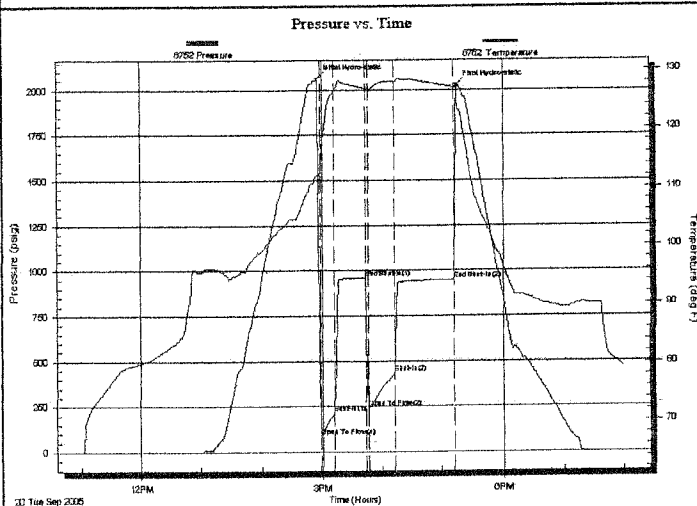
Serial #: **6752** Inside
Press@RunDepth: 436.47 psig @ 4273.00 ft (KB)
Start Date: 2005.09.20 End Date: 2005.09.20
Start Time: 11:03:10 End Time: 20:00:49

Capacity: 7000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2005.09.20 @ 14:55:00
Time Off Btm: 2005.09.20 @ 17:15:30

TEST COMMENT: IF: BOB 3 min., strong steady blow
IS: Blow back 20 sec., 4.5 inches in 30 min.
FF: BOB 2 min., strong steady blow
FS: Only a couple bubbles after 2 min., then died

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PRESSURE SUMMARY

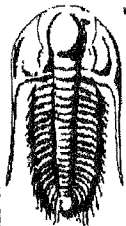
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2062.29	111.90	Initial Hydro-static
3	84.53	112.73	Open To Flow (1)
17	216.72	126.74	Shut-In (1)
49	962.00	126.84	End Shut-In (1)
52	243.24	126.18	Open To Flow (2)
78	436.47	128.08	Shut-In (2)
139	949.07	127.03	End Shut-In (2)
141	2026.78	127.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	5%G,10%O,50%W,35%M	1.47
1054.00	30%G,70%O	14.78

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating Co.
562 W HW. 4 Olmitz, KS 67564
ATTN: Tom Furk

2-28 Stanley
28/18S/29 W
Job Ticket: 22449 **DST#: 3**
Test Start: 2005.09.20 @ 11:03:10

Tool Information

Drill Pipe:	Length: 4125.00 ft	Diameter: 3.80 inches	Volume: 57.86 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 125.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 58.47 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	4271.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	14.00 ft				
Tool Length:	42.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

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Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4244.00	
Shut In Tool	5.00			4249.00	
Hydraulic tool	5.00			4254.00	
Jars	5.00			4259.00	
Safety Joint	3.00			4262.00	
Packer	5.00			4267.00	28.00 Bottom Of Top Packer
Packer	4.00			4271.00	
Stubb	1.00			4272.00	
Perforations	1.00			4273.00	
Recorder	0.00	6752	Inside	4273.00	
Perforations	9.00			4282.00	
Recorder	0.00	13630	Inside	4282.00	
Bullnose	3.00			4285.00	14.00 Bottom Packers & Anchor

Total Tool Length: 42.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Operating Co.

2-28 Stanley

562 W HW. 4 Olmitz, KS 67564

28/18S/29 W

Job Ticket: 22449

DST #: 3

ATTN: Tom Furk

Test Start: 2005.09.20 @ 11:03:10

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

21000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	5%G,10%O,50%W,35%M	1.470
1054.00	30%G,70%O	14.785

Total Length: 1240.00 ft Total Volume: 16.255 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API=36@80F=34 corrected

RW=.267@86F=21000 ppm

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Serial #: 6752

Larson Operating Co.

28/18929 W

DST Test Number: 3

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WICHITA, KS

6752 Pressure

6752 Temperature

Pressure vs. Time

