

15-101-22112

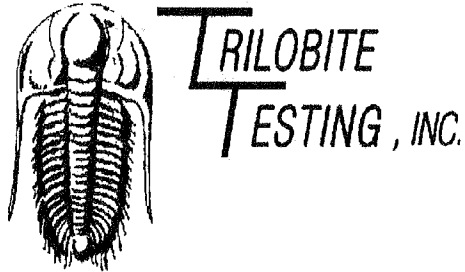
16-175-28w

IND

CONFIDENTIAL

DEC 08 2008

KCC



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc.**

562 W. Hwy 4
Olmitz, KS 67564-8561

ATTN: Bob Lewellyn

16 17 28 Lane, KS

Doris #1-16

Start Date: 2008.08.17 @ 10:01:00

End Date: 2008.08.17 @ 15:58:15

Job Ticket #: 32557 DST #: 1

RECEIVED
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CONSERVATION DIVISION
WICHITA, KS

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Larson Engineering, Inc.

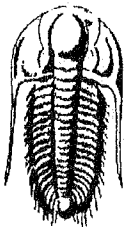
Doris #1-16

16 17 28 Lane, KS

DST # 1

Lansing, E.

2008.08.17



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc.

Doris #1-16

562 W. Hwy 4
Olmitz, KS 67564-8561

16 17 28 Lane, KS

Job Ticket: 32557

DST#: 1

ATTN: Bob Lewellyn

CONFIDENTIAL

Test Start: 2008.08.17 @ 10:01:00

GENERAL INFORMATION:

DEC 08 2008

Formation: **Lansing 'E'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:22:45

Time Test Ended: 15:58:15

Interval: **4010.00 ft (KB) To 4041.00 ft (KB) (TVD)**

Total Depth: 4041.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

KCC

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Reference Elevations: 2764.00 ft (KB)

2759.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8017

Inside

Press@RunDepth: 23.23 psig @ 4011.00 ft (KB)

Start Date: 2008.08.17

End Date:

2008.08.17

Capacity: 7000.00 psig

Last Calib.: 2008.08.17

Start Time: 10:01:01

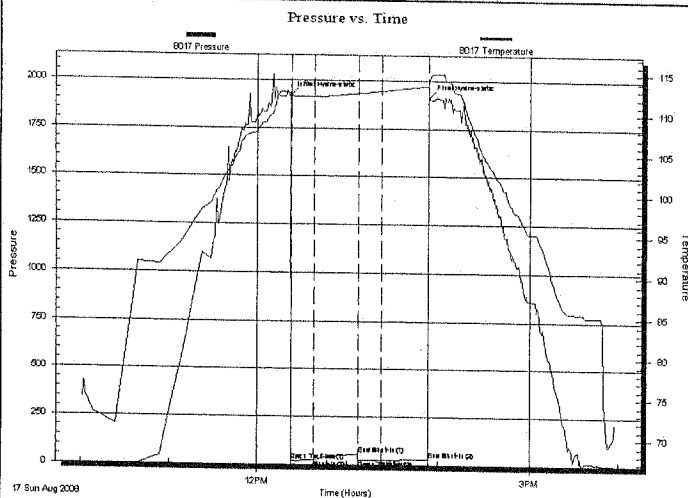
End Time:

15:58:15

Time On Btm: 2008.08.17 @ 12:22:00

Time Off Btm: 2008.08.17 @ 13:53:45

TEST COMMENT: IF 1/2" Blow
ISI No return
FF No blow
FSI No return



PRESSURE SUMMARY

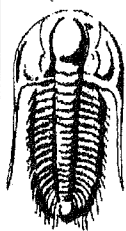
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1917.93	112.71	Initial Hydro-static
1	18.93	112.20	Open To Flow (1)
16	22.33	112.15	Shut-In (1)
46	56.73	112.62	End Shut-In (1)
46	22.82	112.61	Open To Flow (2)
61	23.23	112.90	Shut-In (2)
92	30.93	113.56	End Shut-In (2)
92	1907.31	114.24	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	DM with a spot of oil. 100%DM	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc.

Doris #1-16

562 W. Hwy 4
Olmitz, KS 67564-8561

CONFIDENTIAL 16 17 28 Lane, KS

DEC 08 2008

Job Ticket: 32557

DST#: 1

ATTN: Bob Lewellyn

Test Start: 2008.08.17 @ 10:01:00

Tool Information

Drill Pipe: Length: 3859.00 ft Diameter: 3.80 inches Volume: 54.13 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: 28000.00 lb
Drill Collar: Length: 155.00 ft Diameter: 2.25 inches Volume: 0.76 bbl Weight to Pull Loose: 83000.00 lb
Total Volume: 54.89 bbl Tool Chased 0.00 ft
Drill Pipe Above KB: 32.00 ft String Weight: Initial 63000.00 lb
Depth to Top Packer: 4010.00 ft Final 63000.00 lb
Depth to Bottom Packer: ft
Interval between Packers: 31.00 ft
Tool Length: 59.00 ft
Number of Packers: 2 Diameter: 6.75 inches
Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3983.00	
Shut In Tool	5.00			3988.00	
Hydraulic tool	5.00			3993.00	
Jars	5.00			3998.00	
Safety Joint	3.00			4001.00	
Packer	5.00			4006.00	28.00 Bottom Of Top Packer
Packer	4.00			4010.00	
Stubb	1.00			4011.00	
Recorder	0.00	8017	Inside	4011.00	
Recorder	0.00	8351	Inside	4011.00	
Perforations	25.00			4036.00	
Bullnose	5.00			4041.00	31.00 Bottom Packers & Anchor

Total Tool Length: 59.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc.

Doris #1-16

562 W. Hwy 4
Olmitz, KS 67564-8561

16 17 28 Lane, KS

CONFIDENTIAL

Job Ticket: 32557

DST#: 1

ATTN: Bob Lew ellyn

DEC 08 2008

Test Start: 2008.08.17 @ 10:01:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

KCC

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Oil API:

0 deg API

Viscosity: 50.00 sec/qt

Cushion Volume:

bbl

Water Salinity:

0 ppm

Water Loss: 8.77 in³

Gas Cushion Type:

Gas Cushion Pressure:

psig

Resistivity: 0.00 ohm.m

Salinity: 1900.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	DM with a spot of oil. 100%DM	0.025

Total Length: 5.00 ft

Total Volume: 0.025 bbl

Num Fluid Samples: 0

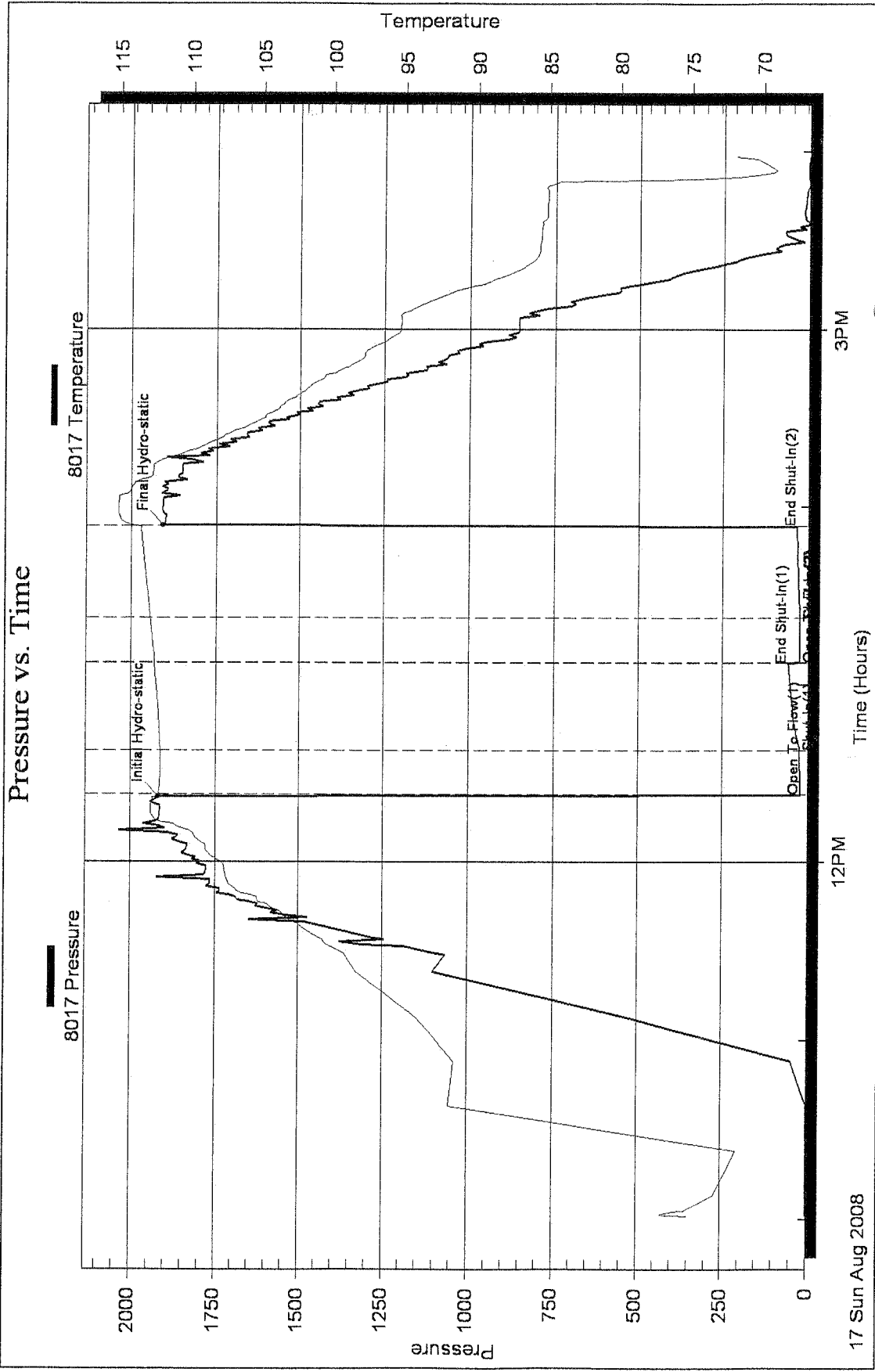
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

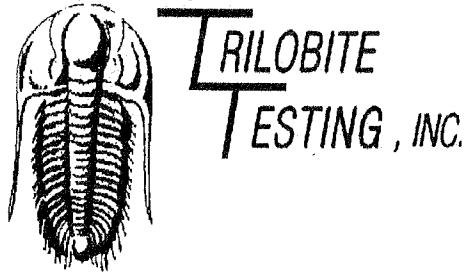


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DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc.**

562 W. Hwy 4
Olmitz, KS 67564-8561

ATTN: Bob Lewellyn

16 17 28 Lane, KS

Doris #1-16

Start Date: 2008.08.18 @ 09:15:03

End Date: 2008.08.18 @ 15:22:03

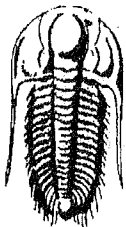
Job Ticket #: 32558 DST #: 2

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WICHITA, KS

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering, Inc.

Doris #1-16

562 W. Hwy 4
Olmitz, KS 67564-8561

CONFIDENTIAL

16 17 28 Lane, KS

Job Ticket: 32558

DST#: 2

ATTN: Bob Lewellyn

DEC 08 2008

Test Start: 2008.08.18 @ 09:15:03

GENERAL INFORMATION:

Formation: **Lansing 'H-I'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:55:18

Time Test Ended: 15:22:03

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: **4106.00 ft (KB) To 4175.00 ft (KB) (TVD)**

Total Depth: 4175.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2764.00 ft (KB)

2759.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: **8017** Inside

Press@RunDepth: 59.10 psig @ 4108.00 ft (KB)

Start Date: 2008.08.18

End Date:

2008.08.18

Start Time: 09:15:04

End Time:

15:22:03

Capacity: 7000.00 psig

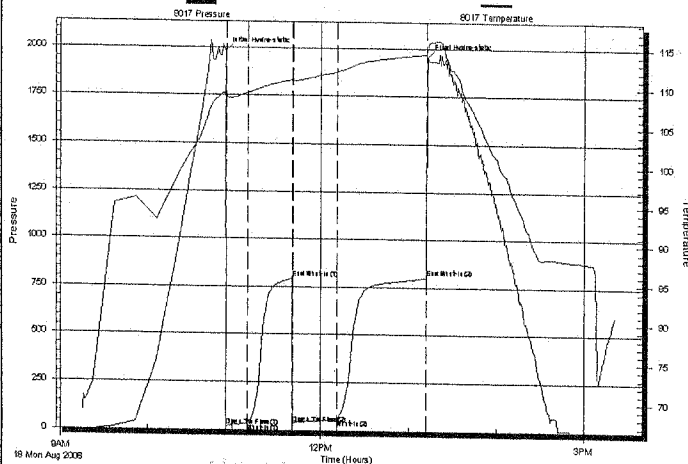
Last Calib.: 2008.08.18

Time On Btm: 2008.08.18 @ 10:54:48

Time Off Btm: 2008.08.18 @ 13:12:33

TEST COMMENT: IF 1 1/2" Blow
ISI No return
FF 6" Blow
FSI No return

Pressure vs. Time



PRESSURE SUMMARY

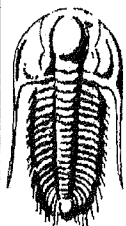
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1978.99	109.39	Initial Hydro-static
1	19.53	108.88	Open To Flow (1)
16	35.02	109.30	Shut-In(1)
46	796.05	110.96	End Shut-In(1)
47	36.79	110.80	Open To Flow (2)
77	59.10	111.99	Shut-In(2)
138	802.86	114.27	End Shut-In(2)
138	1951.60	114.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
80.00	GOCM 5%G 7%O 88%M	0.39

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc.

Doris #1-16

562 W. Hwy 4
Olmitz, KS 67564-8561

CONFIDENTIAL

16 17 28 Lane, KS

ATTN: Bob Lewellyn

DEC 08 2008

Job Ticket: 32558

DST#: 2

Test Start: 2008.08.18 @ 09:15:03

Tool Information

KCC

Drill Pipe:	Length: 3950.00 ft	Diameter: 3.80 inches	Volume: 55.41 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:	27000.00 lb
Drill Collar:	Length: 155.00 ft	Diameter: 2.25 inches	Volume: 0.76 bbl	Weight to Pull Loose:	80000.00 lb
		Total Volume:	56.17 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	65000.00 lb
Depth to Top Packer:	4106.00 ft			Final	65000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	69.00 ft				
Tool Length:	97.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4079.00	
Shut In Tool	5.00			4084.00	
Hydraulic tool	5.00			4089.00	
Jars	5.00			4094.00	
Safety Joint	3.00			4097.00	
Packer	5.00			4102.00	28.00 Bottom Of Top Packer
Packer	4.00			4106.00	
Stubb	1.00			4107.00	
Perforations	1.00			4108.00	
Recorder	0.00	8017	Inside	4108.00	
Recorder	0.00	8351	Inside	4108.00	
Change Over Sub	1.00			4109.00	
Drill Pipe	60.00			4169.00	
Change Over Sub	1.00			4170.00	
Bullnose	5.00			4175.00	69.00 Bottom Packers & Anchor

Total Tool Length: 97.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc.

Doris #1-16

562 W. Hwy 4
Olmitz, KS 67564-8561

CONFIDENTIAL

16 17 28 Lane, KS

ATTN: Bob Lewellyn

DEC 08 2008

Job Ticket: 32558

DST#: 2

Test Start: 2008.08.18 @ 09:15:03

KCC

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 48.00 sec/qt

Water Loss: 9.56 in³

Resistivity: 0.00 ohm.m

Salinity: 1600.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

0 deg API

0 ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
80.00	GOCM 5%G 7%O 88%M	0.393

Total Length: 80.00 ft

Total Volume: 0.393 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

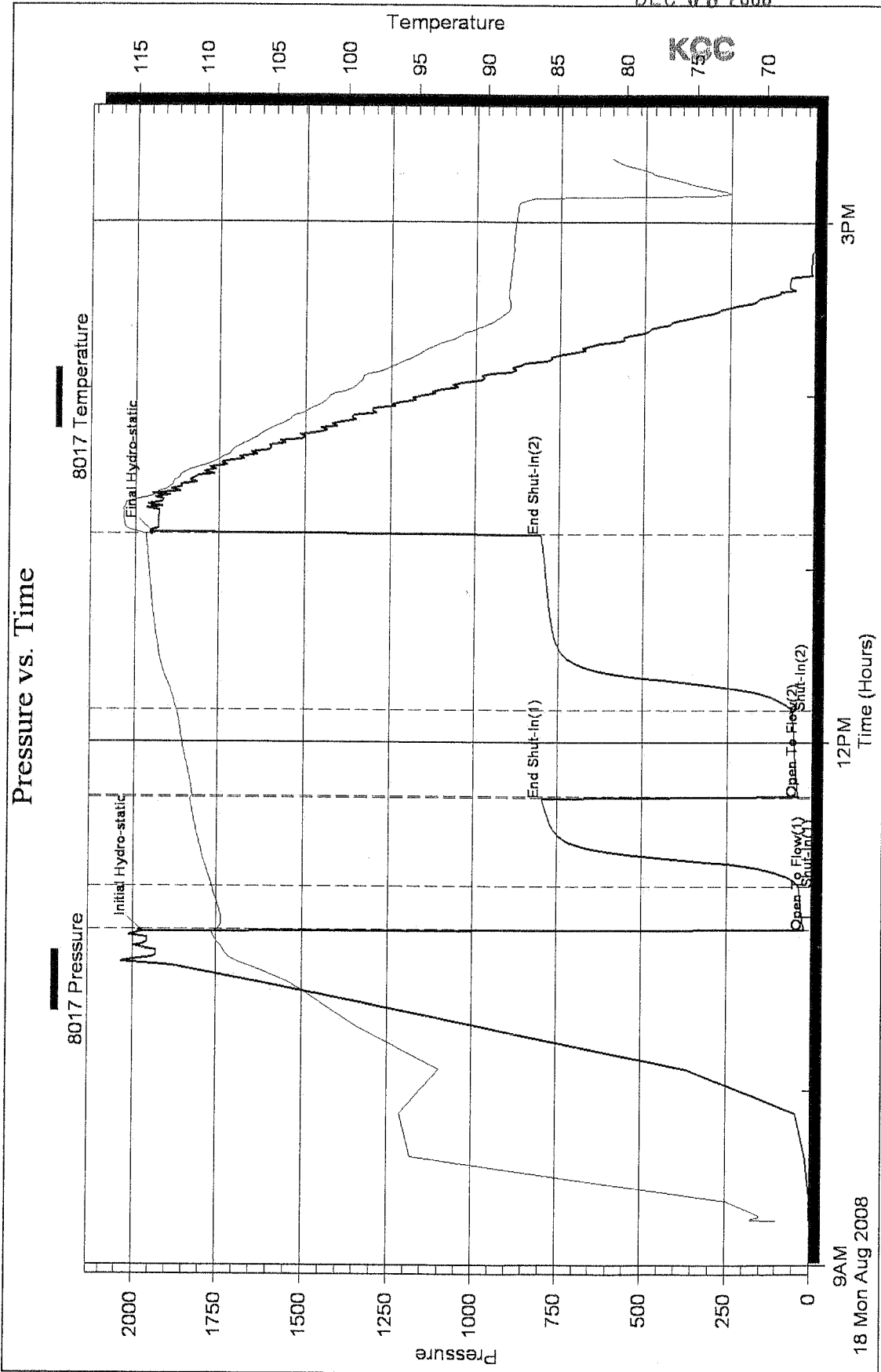
Serial #: 8017

Inside

Larson Engineering, Inc.

16 17 28 Lane, KS

DST Test Number: 2



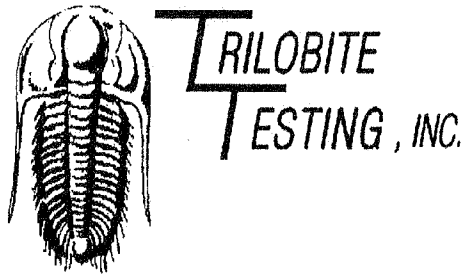
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DEC 08 2008

KCC



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc.**

562 W. Hwy 4
Olmits, KS 67564-8561

ATTN: Bob Lewellyn

16 17 28 Lane, KS

Doris #1-16

Start Date: 2008.08.22 @ 10:06:04

End Date: 2008.08.22 @ 16:51:43

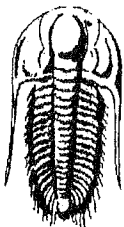
Job Ticket #: 32626 DST #: 3

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

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CONSERVATION DIVISION
WICHITA, KS



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc.

Doris #1-16

562 W. Hwy 4
Olmritz, KS 67564-8561

CONFIDENTIAL

16 17 28 Lane, KS

ATTN: Bob Lewellyn

DEC 08 2008

Job Ticket: 32626

DST#: 3

Test Start: 2008.08.22 @ 10:06:04

GENERAL INFORMATION:

KCC

Formation: **Lansing J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:31:29

Time Test Ended: 16:51:43

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Interval: **4183.00 ft (KB) To 4203.00 ft (KB) (TVD)**

Total Depth: 4203.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2764.00 ft (KB)

2759.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6772

Outside

Press@RunDepth: 285.60 psig @ 4184.00 ft (KB)

Start Date: 2008.08.22

End Date:

2008.08.22

Capacity: 7000.00 psig

Start Time: 10:06:04

End Time:

16:51:43

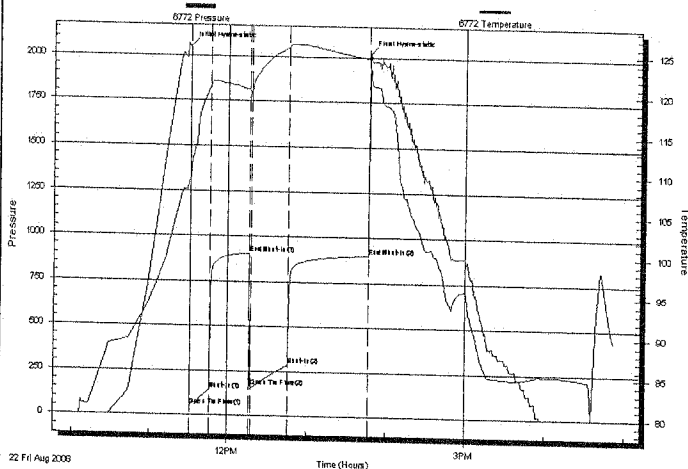
Last Calib.: 2008.08.22

Time On Btm: 2008.08.22 @ 11:31:14

Time Off Btm: 2008.08.22 @ 13:47:29

TEST COMMENT: IF Strong blow BOB in 3 min
IS 1/4 blow BOB in 8 min
FF 1/4 blow BOB in 3 min
FS 1/4 blow BOB in 12 min

Pressure vs. Time



PRESSURE SUMMARY

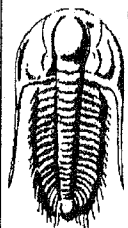
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2050.73	109.19	Initial Hydro-static
1	49.05	108.13	Open To Flow (1)
16	142.86	120.73	Shut-In (1)
46	905.85	120.37	End Shut-In (1)
47	161.59	119.72	Open To Flow (2)
75	285.60	125.67	Shut-In (2)
136	898.88	124.36	End Shut-In (2)
137	2019.38	124.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	gocw m 25%G 5%O 10%W 60%M	0.30
124.00	gocm 20%G 20%O 60%M	0.89
568.00	go 10%G 90%O	7.97
0.00	2108 GIP	0.00

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc.

Doris #1-16

562 W. Hwy 4
Olmitz, KS 67564-8561

CONFIDENTIAL

16 17 28 Lane, KS

DEC 08 2008

Job Ticket: 32626

DST#: 3

ATTN: Bob Lewellyn

KOC

Test Start: 2008.08.22 @ 10:06:04

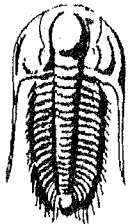
Tool Information

Drill Pipe:	Length: 4016.00 ft	Diameter: 3.80 inches	Volume: 56.33 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: 155.00 ft	Diameter: 2.25 inches	Volume: 0.76 bbl	Weight to Pull Loose: 80000.00 lb
		Total Volume:	57.09 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4183.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	47.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4157.00	
Shut In Tool	5.00			4162.00	
Hydraulic tool	5.00			4167.00	
Jars	5.00			4172.00	
Safety Joint	2.00			4174.00	
Packer	5.00			4179.00	27.00 Bottom Of Top Packer
Packer	4.00			4183.00	
Stubb	1.00			4184.00	
Recorder	0.00	6769	Inside	4184.00	
Recorder	0.00	6772	Outside	4184.00	
Perforations	14.00			4198.00	
Bullnose	5.00			4203.00	20.00 Bottom Packers & Anchor

Total Tool Length: 47.00

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WICHITA, KS



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc.

Doris #1-16

562 W. Hwy 4
Olmitz, KS 67564-8561

CONFIDENTIAL

16 17 28 Lane, KS

ATTN: Bob Lewellyn

DEC 08 2008

Job Ticket: 32626

DST#: 3

Test Start: 2008.08.22 @ 10:06:04

KCC

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 48.00 sec/qt

Water Loss: 6.88 in³

Resistivity: 0.00 ohm.m

Salinity: 1600.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

34 deg API

Water Salinity:

1600 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	gocw m 25%G 5%O 10%W 60%M	0.305
124.00	gocm 20%G 20%O 60%M	0.892
568.00	go 10%G 90%O	7.968
0.00	2108 GIP	0.000

Total Length: 754.00 ft

Total Volume: 9.165 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 38@100=34

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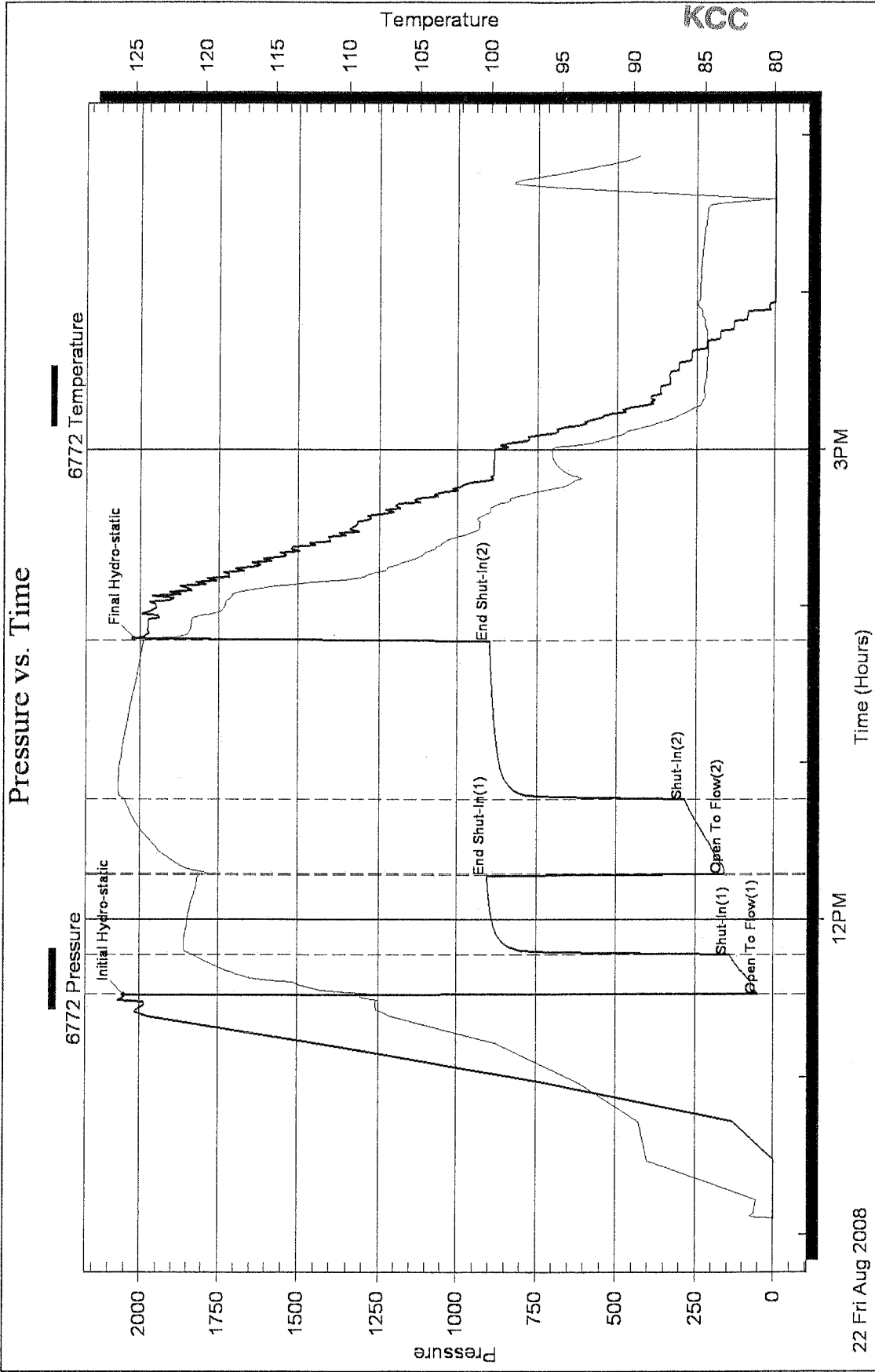
DST Test Number: 3

16 17 28 Lane, KS

Outside Larson Engineering, Inc.

Serial #: 6772

Pressure vs. Time



Ref. No: 32626

Trilobite Testing, Inc

Printed: 2008.08.26 @ 14:38:34 Page 5