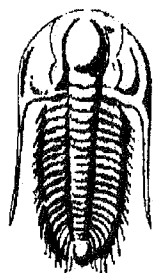


15-101-22161

31-18s-30w

Ind



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State RD 4
Olmitz, KS 67564

CONFIDENTIAL

MAY 29 2009

KCC

ATTN: Steve Davis

31-18-30 Lane, KS

Whiting 2-31

Start Date: 2009.03.22 @ 16:30:10

End Date: 2009.03.22 @ 22:48:49

Job Ticket #: 34266

DST #: 1

KANSAS CORPORATION COMMISSION
JUN 01 2009
RECEIVED

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Larson Engineering Inc

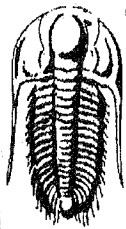
Whiting 2-31

31-18-30 Lane, KS

DST # 1

Lansing J

2009.03.22



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering Inc

562 W State RD 4
Olmitz, KS 67564

ATTN: Steve Davis

Whiting 2-31

31-18-30 Lane, KS

Job Ticket: 34266

DST#: 1

Test Start: 2009.03.22 @ 16:30:10

GENERAL INFORMATION:

Formation: **Lansing J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:22:20

Time Test Ended: 22:48:49

Interval: **4190.00 ft (KB) To 4215.00 ft (KB) (TVD)**

Total Depth: 4215.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Reference Elevations: 2902.00 ft (KB)

2897.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8373

Inside

Press@RunDepth: 210.05 psig @ 4191.00 ft (KB)

Start Date: 2009.03.22

End Date:

2009.03.22

Start Time: 16:30:10

End Time:

22:48:49

Capacity: 7000.00 psig

Last Calib.: 2009.03.22

Time On Btm: 2009.03.22 @ 18:20:50

Time Off Btm: 2009.03.22 @ 20:39:05

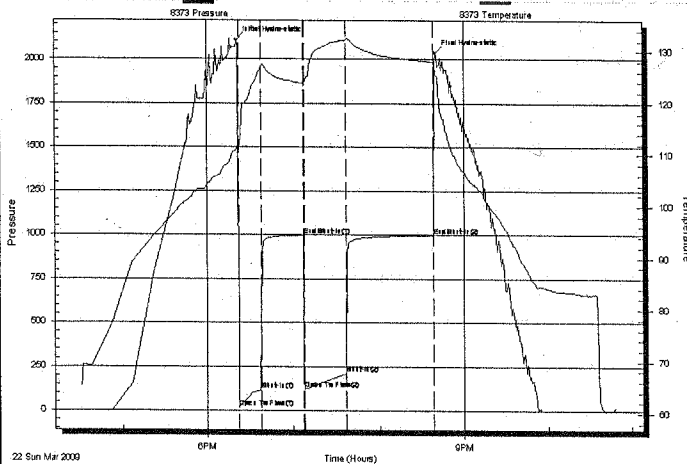
TEST COMMENT: IF: 1/4 blow built to 9 in 15 min.

IS: No return.

FF: 1/4 blow BOB in 17 min.

FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

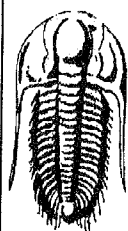
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2109.54	111.23	Initial Hydro-static
2	18.79	111.30	Open To Flow (1)
17	117.39	126.85	Shut-In (1)
47	998.48	123.90	End Shut-In (1)
47	120.96	123.55	Open To Flow (2)
76	210.05	132.25	Shut-In (2)
137	997.49	128.07	End Shut-In (2)
139	2036.90	126.37	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
188.00	mcw 90%w 10%m	0.92
186.00	mcw 80%w 20%m	2.61
72.00	wcm 20%w 80%m	1.01

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

Whiting 2-31

562 W State RD 4
Olmritz, KS 67564

31-18-30 Lane, KS

Job Ticket: 34266

DST#: 1

ATTN: Steve Davis

Test Start: 2009.03.22 @ 16:30:10

Tool Information

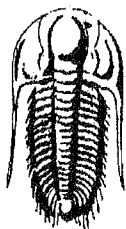
Drill Pipe:	Length: 3981.00 ft	Diameter: 3.80 inches	Volume: 55.84 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 188.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume: 56.76 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	4190.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	25.00 ft				
Tool Length:	52.00 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			4164.00	
Shut In Tool	5.00			4169.00	
Hydraulic tool	5.00			4174.00	
Jars	5.00			4179.00	
Safety Joint	2.00			4181.00	
Packer	5.00			4186.00	27.00 Bottom Of Top Packer
Packer	4.00			4190.00	
Stubb	1.00			4191.00	
Recorder	0.00	6772	Inside	4191.00	
Recorder	0.00	8373	Inside	4191.00	
Perforations	19.00			4210.00	
Bullnose	5.00			4215.00	25.00 Bottom Packers & Anchor

Total Tool Length: 52.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Whiting 2-31

562 W State RD 4
Olmitz, KS 67564

31-18-30 Lane, KS

Job Ticket: 34266

DST#: 1

ATTN: Steve Davis

Test Start: 2009.03.22 @ 16:30:10

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 93.00 lb/gal

Cushion Length:

ft

Water Salinity:

32000 ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.16 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
188.00	mcw 90%w 10%m	0.925
186.00	mcw 80%w 20%m	2.609
72.00	w cm 20%w 80%m	1.010

Total Length: 446.00 ft

Total Volume: 4.544 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

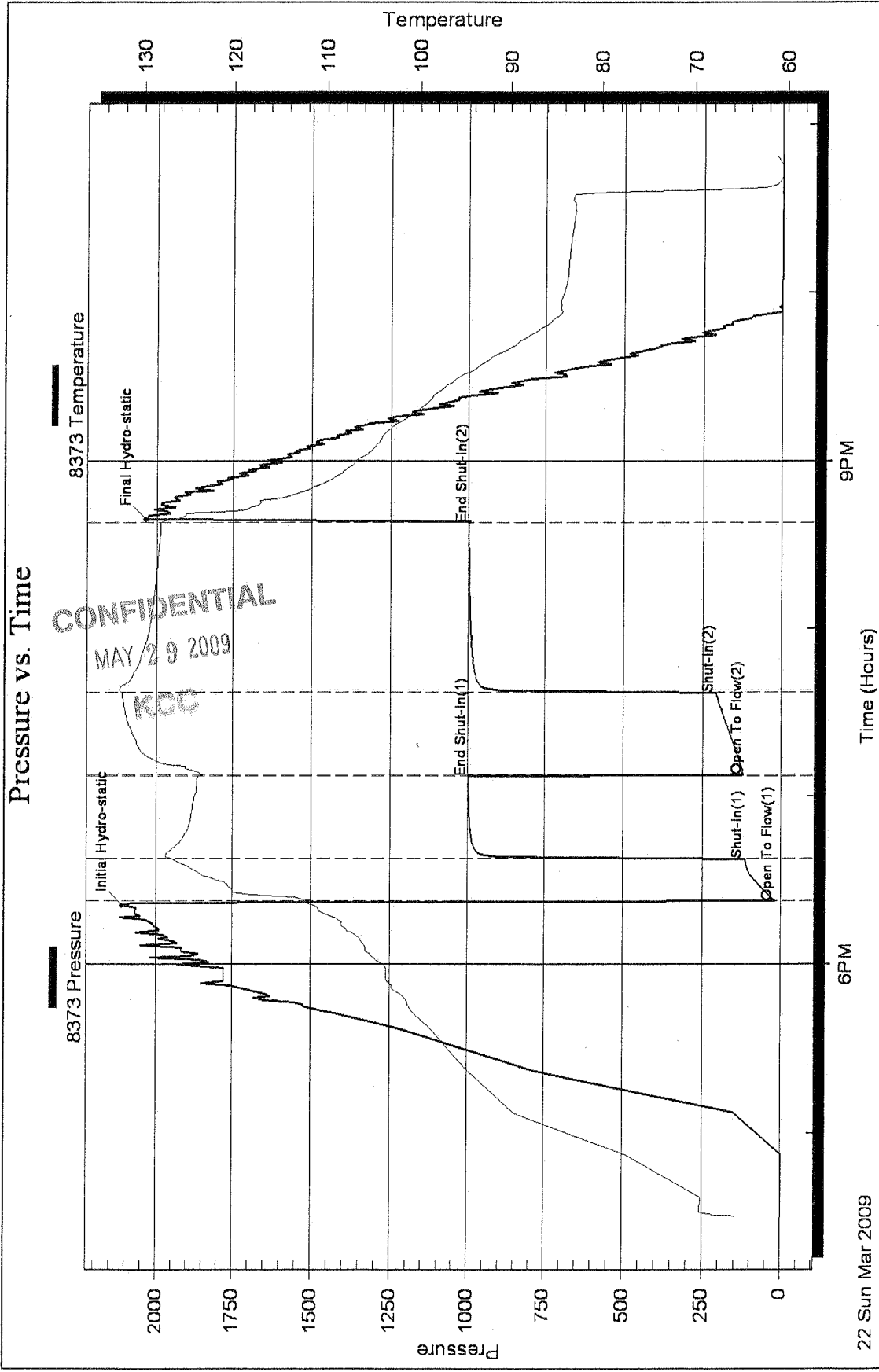
Serial #:

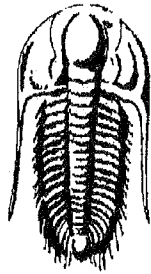
Laboratory Name:

Laboratory Location:

Recovery Comments: .24@64=32000

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State RD 4
Olmits, KS 67564

CONFIDENTIAL
MAY 29 2009
KCC

ATTN: Steve Davis

31-18-30 Lane, KS

Whiting 2-31

Start Date: 2009.03.23 @ 14:45:41

End Date: 2009.03.23 @ 19:50:35

Job Ticket #: 34267 DST #: 2

KANSAS CORPORATION COMMISSION

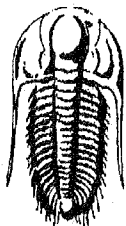
JUN 01 2009

RECEIVED

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

562 W State RD 4
Olmitz, KS 67564

ATTN: Steve Davis

Whiting 2-31

31-18-30 Lane, KS

Job Ticket: 34267

DST#: 2

Test Start: 2009.03.23 @ 14:45:41

GENERAL INFORMATION:

Formation: **Lansing L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:39:21

Time Test Ended: 19:50:35

Interval: **4276.00 ft (KB) To 4300.00 ft (KB) (TVD)**

Total Depth: 4300.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Reference Elevations: 2902.00 ft (KB)

2897.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6772

Inside

Press@RunDepth: 22.47 psig @ 4277.00 ft (KB)

Start Date: 2009.03.23

End Date:

2009.03.23

Start Time: 14:45:41

End Time:

19:50:35

Capacity: 7000.00 psig

Last Calib.: 2009.03.23

Time On Btm: 2009.03.23 @ 16:38:06

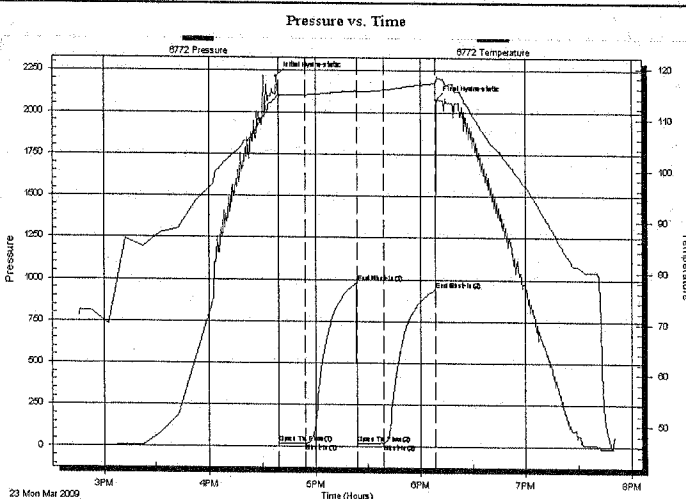
Time Off Btm: 2009.03.23 @ 18:09:06

TEST COMMENT: IF: 1/4 blow died in 8 min.

IS: No return.

FF: No blow.

FS: No return.



PRESSURE SUMMARY

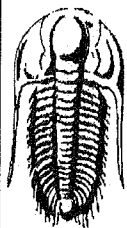
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2217.98	114.38	Initial Hydro-static
2	19.59	113.86	Open To Flow (1)
16	20.05	114.73	Shut-In(1)
46	981.43	115.54	End Shut-In(1)
46	20.94	115.00	Open To Flow (2)
61	22.47	115.73	Shut-In(2)
91	941.72	117.12	End Shut-In(2)
91	2076.82	117.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%rm	0.02

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

Whiting 2-31

562 W State RD 4
Olmitz, KS 67564

31-18-30 Lane, KS

Job Ticket: 34267

DST#: 2

ATTN: Steve Davis

Test Start: 2009.03.23 @ 14:45:41

Tool Information

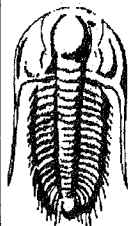
Drill Pipe:	Length: 4072.00 ft	Diameter: 3.80 inches	Volume: 57.12 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 188.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose:	90000.00 lb
		Total Volume:	58.04 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	4276.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	24.00 ft				
Tool Length:	51.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4250.00	
Shut In Tool	5.00			4255.00	
Hydraulic tool	5.00			4260.00	
Jars	5.00			4265.00	
Safety Joint	2.00			4267.00	
Packer	5.00			4272.00	27.00 Bottom Of Top Packer
Packer	4.00			4276.00	
Stubb	1.00			4277.00	
Recorder	0.00	6772	Inside	4277.00	
Recorder	0.00	8373	Inside	4277.00	
Perforations	18.00			4295.00	
Bullnose	5.00			4300.00	24.00 Bottom Packers & Anchor

Total Tool Length: 51.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Whiting 2-31

562 W State RD 4
Olmitz, KS 67564

31-18-30 Lane, KS

Job Ticket: 34267

DST#: 2

ATTN: Steve Davis

Test Start: 2009.03.23 @ 14:45:41

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 48.00 sec/qt

Water Loss: 6.76 in³

Resistivity: 0.00 ohm.m

Salinity: 1300.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100% _m	0.025

Total Length: 5.00 ft

Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

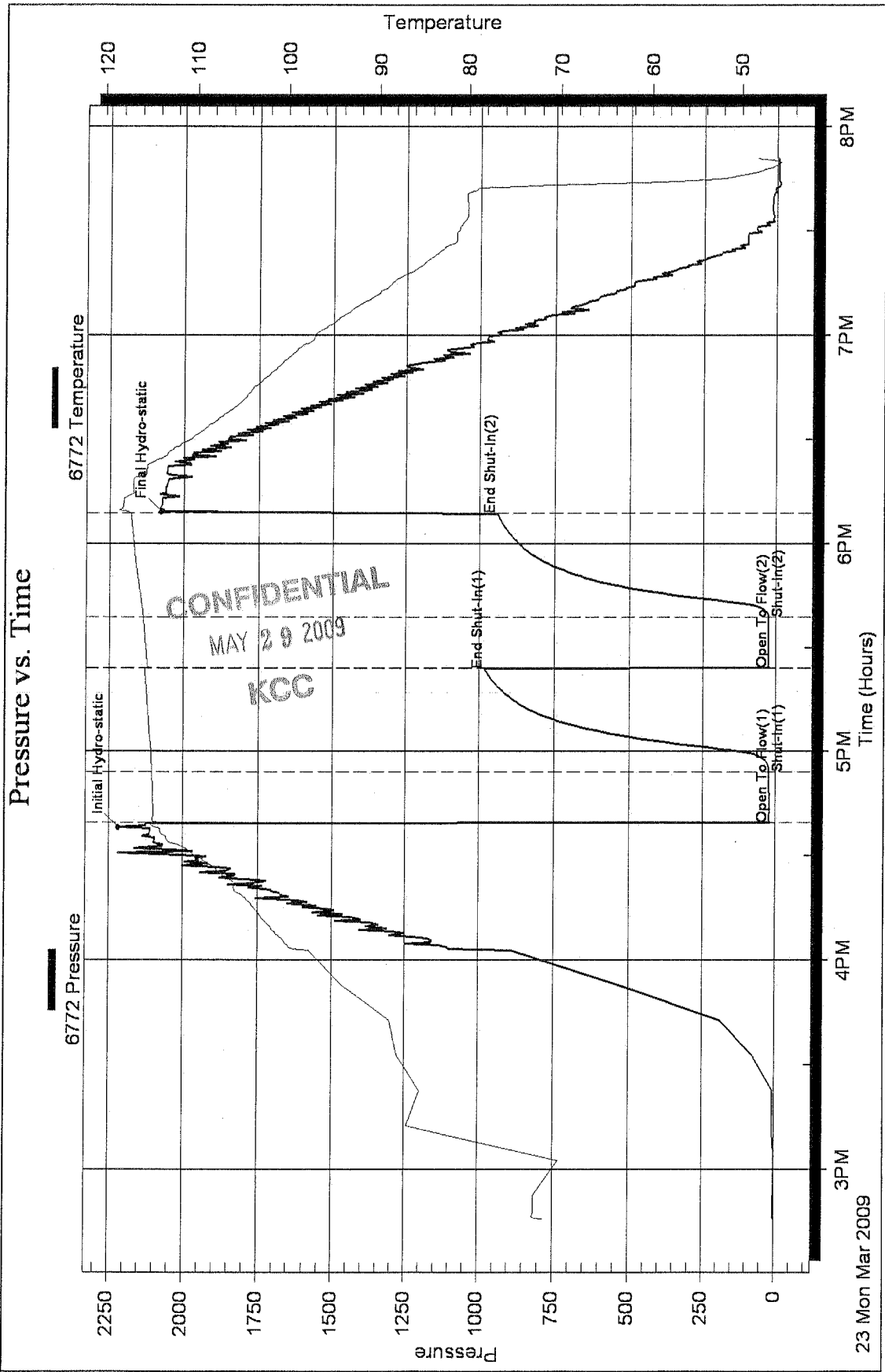
Serial #:

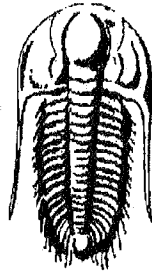
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State RD 4
Olmitz, KS 67564

CONFIDENTIAL ATTN: Steve Davis

MAY 29 2009

31-18-30 Lane, KS

KCC

Whiting 2-31

Start Date: 2009.03.24 @ 18:38:15

End Date: 2009.03.24 @ 23:48:09

Job Ticket #: 34268 DST #: 3

KANSAS CORPORATION COMMISSION

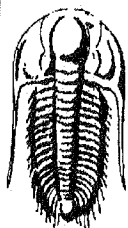
JUN 01 2009

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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

562 W State RD 4
Olmitz, KS 67564

ATTN: Steve Davis

Whiting 2-31

31-18-30 Lane, KS

Job Ticket: 34268

DST#: 3

Test Start: 2009.03.24 @ 18:38:15

GENERAL INFORMATION:

Formation: **Altmont**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:15:10

Time Test Ended: 23:48:09

Interval: **4335.00 ft (KB) To 4404.00 ft (KB) (TVD)**

Total Depth: 4404.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Reference Elevations: 2902.00 ft (KB)

2897.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6772 Inside

Press@RunDepth: 30.96 psig @ 4336.00 ft (KB)

Start Date: 2009.03.24

End Date: 2009.03.24

Start Time: 18:38:15

End Time: 23:48:09

Capacity: 7000.00 psig

Last Calib.: 2009.03.25

Time On Btm: 2009.03.24 @ 20:12:40

Time Off Btm: 2009.03.24 @ 21:45:55

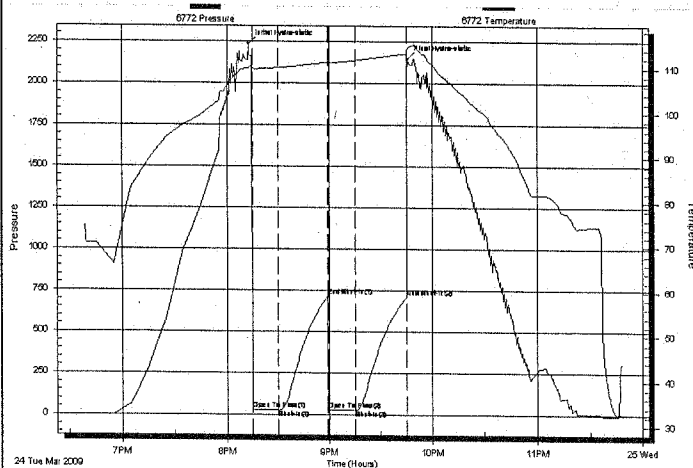
TEST COMMENT: IF: 1/4 blow died in 10 min.

IS: No return.

FF: No blow.

FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2233.37	110.00	Initial Hydro-static
3	26.94	109.85	Open To Flow (1)
18	27.57	110.07	Shut-In(1)
47	716.72	111.29	End Shut-In(1)
47	30.70	111.08	Open To Flow(2)
63	30.96	111.74	Shut-In(2)
93	707.89	113.25	End Shut-In(2)
94	2146.11	114.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

Whiting 2-31

562 W State RD 4
Olmitz, KS 67564

31-18-30 Lane, KS

Job Ticket: 34268

DST#: 3

ATTN: Steve Davis

Test Start: 2009.03.24 @ 18:38:15

Tool Information

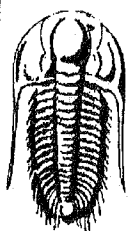
Drill Pipe:	Length: 4135.00 ft	Diameter: 3.80 inches	Volume: 58.00 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 188.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 90000.00 lb
		Total Volume: 58.92 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4335.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	69.00 ft			
Tool Length:	96.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00			4309.00	
Shut In Tool	5.00			4314.00	
Hydraulic tool	5.00			4319.00	
Jars	5.00			4324.00	
Safety Joint	2.00			4326.00	
Packer	5.00			4331.00	27.00 Bottom Of Top Packer
Packer	4.00			4335.00	
Stubb	1.00			4336.00	
Recorder	0.00	6772	Inside	4336.00	
Recorder	0.00	8373	Inside	4336.00	
Perforations	2.00			4338.00	
Change Over Sub	1.00			4339.00	
Drill Pipe	59.00			4398.00	
Change Over Sub	1.00			4399.00	
Bullnose	5.00			4404.00	69.00 Bottom Packers & Anchor

Total Tool Length: 96.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Whiting 2-31

562 W State RD 4
Olmitz, KS 67564

31-18-30 Lane, KS

Job Ticket: 34268

DST#: 3

ATTN: Steve Davis

Test Start: 2009.03.24 @ 18:38:15

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 49.00 sec/qt

Water Loss: 6.37 in³

Resistivity: 0.00 ohm.m

Salinity: 1300.00 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
5.00	mud 100% _m	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:

Serial #: 6772

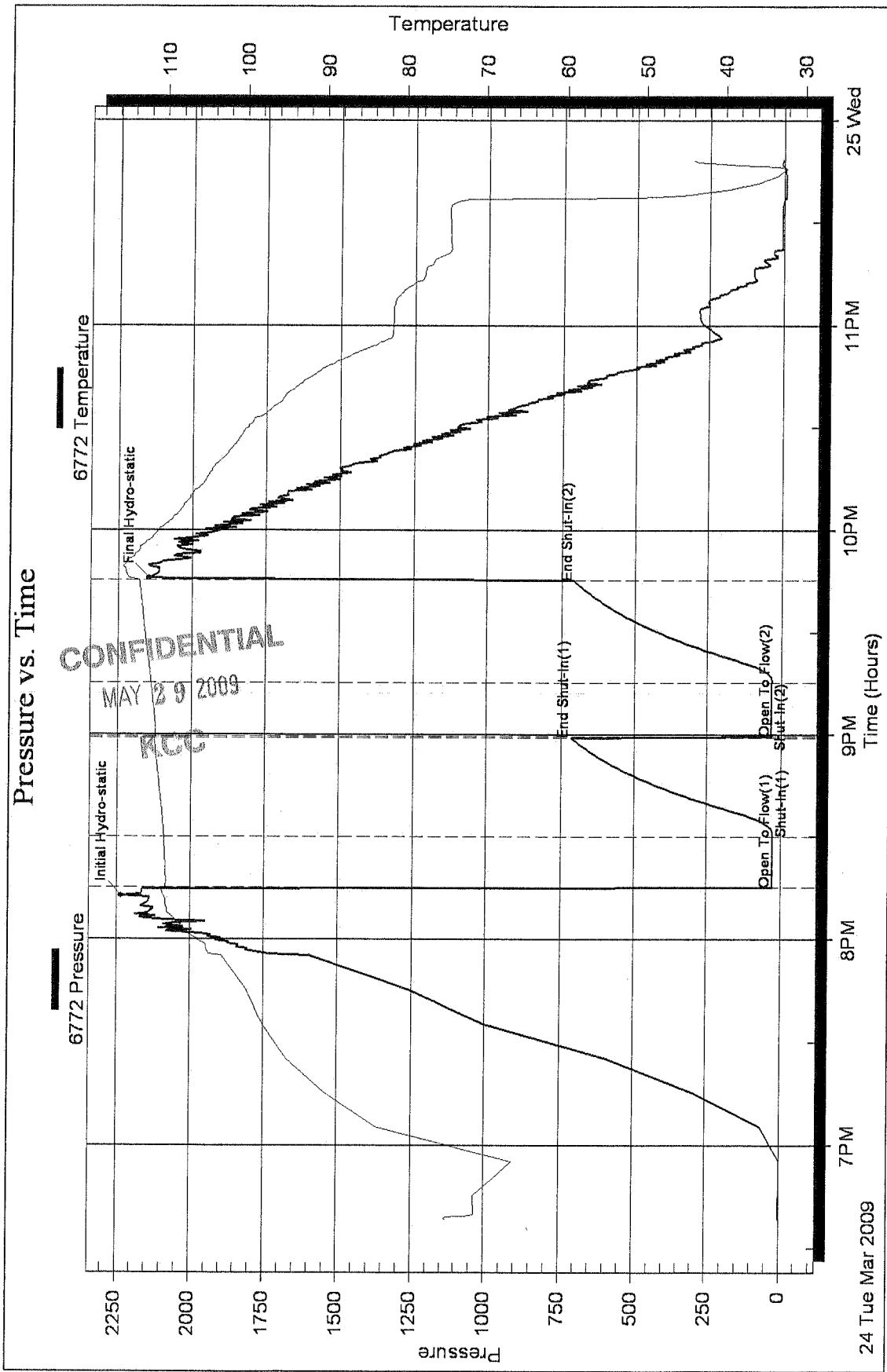
Inside

Larson Engineering Inc

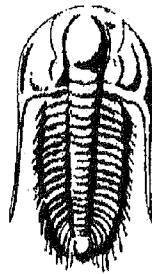
31-18-30 Lane, KS

DST Test Number: 3

Pressure vs. Time



CONFIDENTIAL
MAY 29 2009
KCC



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State RD 4
Olmits, KS 67564

ATTN: Steve Davis

31-18-30 Lane, KS

Whiting 2-31

Start Date: 2009.03.26 @ 00:20:35

End Date: 2009.03.26 @ 05:05:44

Job Ticket #: 34269

DST #: 4

CONFIDENTIAL

MAY 29 2009

KCC

Trilobite Testing, Inc

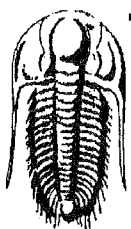
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KANSAS CORPORATION COMMISSION

JUN 01 2009

RECEIVED



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering Inc

562 W State RD 4
Olmitz, KS 67564

ATTN: Steve Davis

Whiting 2-31

31-18-30 Lane, KS

Job Ticket: 34269

DST#: 4

Test Start: 2009.03.26 @ 00:20:35

GENERAL INFORMATION:

Formation: **Pawnee- Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:32:15

Time Test Ended: 05:05:44

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Interval: **4436.00 ft (KB) To 4575.00 ft (KB) (TVD)**

Total Depth: 4575.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2902.00 ft (KB)

2897.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6772 Inside

Press@RunDepth: psig @ 4437.00 ft (KB)

Start Date: 2009.03.26

End Date:

2009.03.26

Start Time: 00:20:35

End Time:

05:05:44

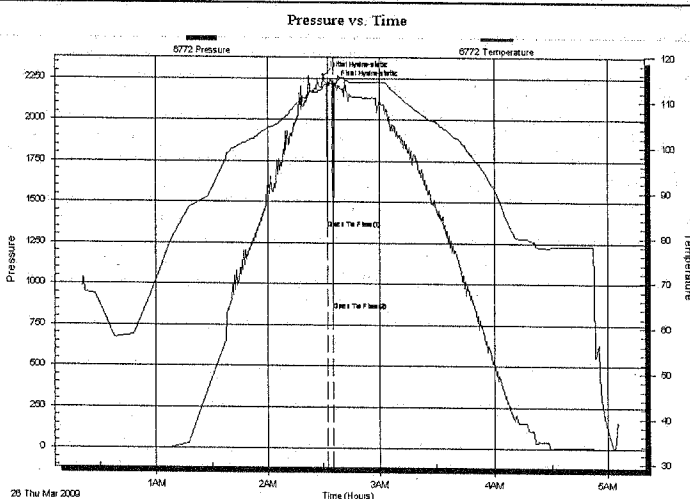
Capacity: 7000.00 psig

Last Calib.: 2009.03.26

Time On Btm: 2009.03.26 @ 02:30:15

Time Off Btm: 2009.03.26 @ 02:36:00

TEST COMMENT: Packer failed at open.



PRESSURE SUMMARY

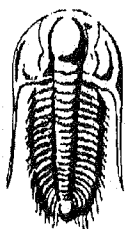
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2268.75	113.47	Initial Hydro-static
2	1337.20	113.57	Open To Flow (1)
6	835.96	113.81	Open To Flow (2)
6	2214.56	114.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
320.00	mud 100% m	2.78

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Whiting 2-31

562 W State RD 4
Olmitz, KS 67564

31-18-30 Lane, KS

Job Ticket: 34269

DST#: 4

ATTN: Steve Davis

Test Start: 2009.03.26 @ 00:20:35

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 49.00 sec/qt

Water Loss: 7.96 in³

Resistivity: 0.00 ohm.m

Salinity: 1700.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

0 deg API

Water Salinity:

0 ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
320.00	mud 100% _m	2.776

Total Length: 320.00 ft Total Volume: 2.776 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

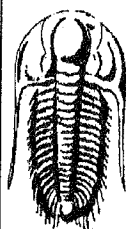
Laboratory Name:

Laboratory Location:

Recovery Comments

MAY 29 2009

KCC



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

Whiting 2-31

562 W State RD 4
Olmitz, KS 67564

31-18-30 Lane, KS

Job Ticket: 34269

DST#: 4

ATTN: Steve Davis

Test Start: 2009.03.26 @ 00:20:35

Tool Information

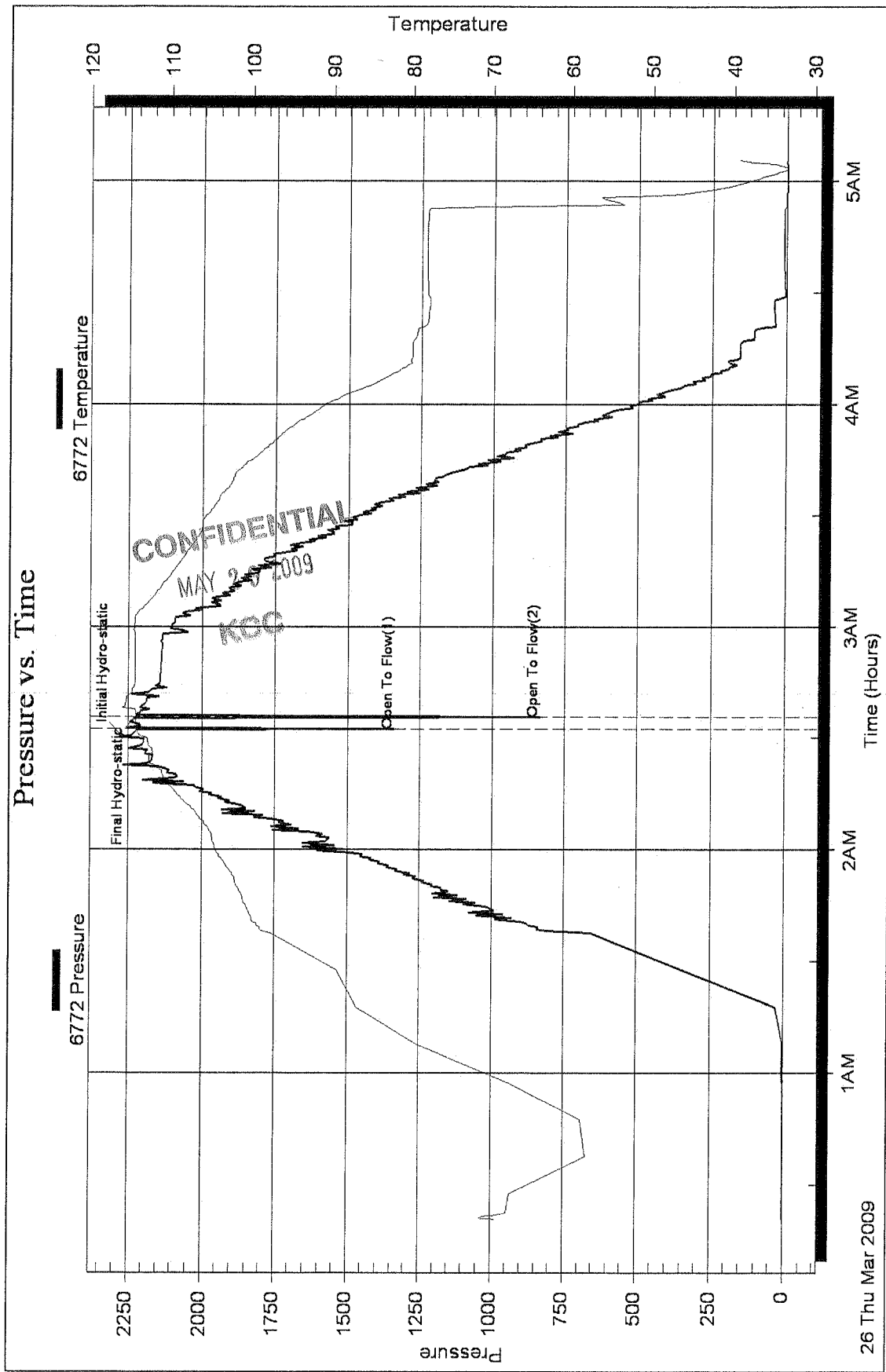
Drill Pipe:	Length: 4225.00 ft	Diameter: 3.80 inches	Volume: 59.27 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 188.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 72000.00 lb
			Total Volume: 60.19 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4436.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	139.00 ft			
Tool Length:	166.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

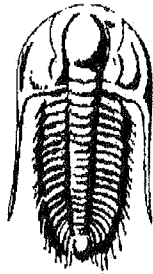
Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4410.00	
Shut In Tool	5.00			4415.00	
Hydraulic tool	5.00			4420.00	
Jars	5.00			4425.00	
Safety Joint	2.00			4427.00	
Packer	5.00			4432.00	27.00 Bottom Of Top Packer
Packer	4.00			4436.00	
Stubb	1.00			4437.00	
Recorder	0.00	6772	Inside	4437.00	
Recorder	0.00	8373	Inside	4437.00	
Perforations	10.00			4447.00	
Change Over Sub	1.00			4448.00	
Drill Pipe	121.00			4569.00	
Change Over Sub	1.00			4570.00	
Bullnose	5.00			4575.00	139.00 Bottom Packers & Anchor

Total Tool Length: 166.00





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State RD 4
Olmitz, KS 67564

CONFIDENTIAL

MAY 29 2009

KCC

ATTN: Steve Davis

31-18-30 Lane, KS

Whiting 2-31

Start Date: 2009.03.26 @ 05:18:05

End Date: 2009.03.26 @ 09:30:00

Job Ticket #: 34270

DST #: 5

KANSAS CORPORATION COMMISSION

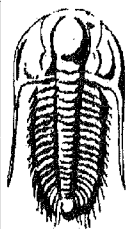
JUN 01 2009

RECEIVED

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

562 W State RD 4
Olmitz, KS 67564

ATTN: Steve Davis

Whiting 2-31

31-18-30 Lane, KS

Job Ticket: 34270

DST#: 5

Test Start: 2009.03.26 @ 05:18:05

GENERAL INFORMATION:

Formation: **Ft. Scott- Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:05:00

Time Test Ended: 09:30:00

Interval: **4480.00 ft (KB) To 4575.00 ft (KB) (TVD)**

Total Depth: 4575.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Reference Elevations: 2902.00 ft (KB)

2897.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6772 Inside

Press@RunDepth: psig @ 4481.00 ft (KB)

Start Date: 2009.03.26

End Date:

2009.03.26

Start Time: 05:18:05

End Time:

09:30:00

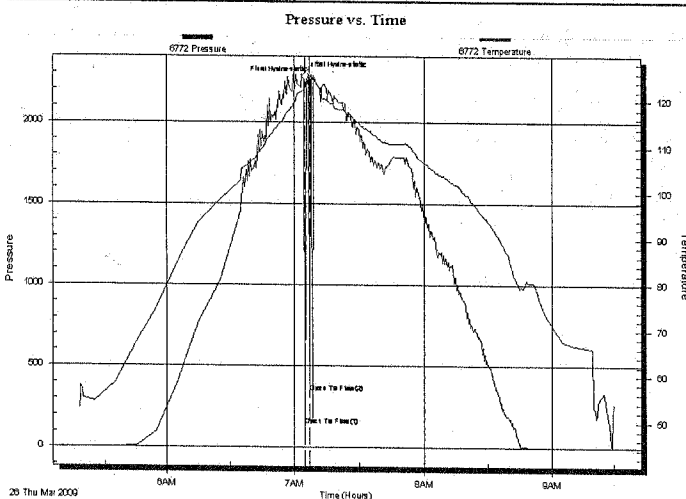
Capacity: 7000.00 psig

Last Calib.: 2009.03.26

Time On Btm: 2009.03.26 @ 07:03:30

Time Off Btm: 2009.03.26 @ 07:09:30

TEST COMMENT: Packer failed at open.



PRESSURE SUMMARY

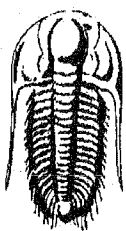
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2286.40	122.11	Initial Hydro-static
2	133.00	122.09	Open To Flow (1)
4	338.54	124.62	Open To Flow (2)
6	2255.61	124.75	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	mud 100% m	2.50

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

Whiting 2-31

562 W State RD 4
Olmitz, KS 67564

31-18-30 Lane, KS

Job Ticket: 34270

DST#: 5

ATTN: Steve Davis

Test Start: 2009.03.26 @ 05:18:05

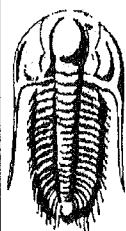
Tool Information

Drill Pipe:	Length: 4285.00 ft	Diameter: 3.80 inches	Volume: 60.11 bbl	Tool Weight:	1500.00 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: 188.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose:	72000.00 lb
		Total Volume:	61.03 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	4480.00 ft			Final	72000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	95.00 ft				
Tool Length:	122.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4454.00	
Shut In Tool	5.00			4459.00	
Hydraulic tool	5.00			4464.00	
Jars	5.00			4469.00	
Safety Joint	2.00			4471.00	
Packer	5.00			4476.00	27.00 Bottom Of Top Packer
Packer	4.00			4480.00	
Stubb	1.00			4481.00	
Recorder	0.00	6772	Inside	4481.00	
Recorder	0.00	8373	Inside	4481.00	
Perforations	26.00			4507.00	
Change Over Sub	1.00			4508.00	
Drill Pipe	61.00			4569.00	
Change Over Sub	1.00			4570.00	
Bullnose	5.00			4575.00	95.00 Bottom Packers & Anchor

Total Tool Length: 122.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Whiting 2-31

562 W State RD 4
Olmitz, KS 67564

31-18-30 Lane, KS

Job Ticket: 34270

DST#: 5

ATTN: Steve Davis

Test Start: 2009.03.26 @ 05:18:05

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 49.00 sec/qt

Water Loss: 7.97 in³

Resistivity: 0.00 ohm.m

Salinity: 1700.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	mud 100% _m	2.496

Total Length: 300.00 ft

Total Volume: 2.496 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

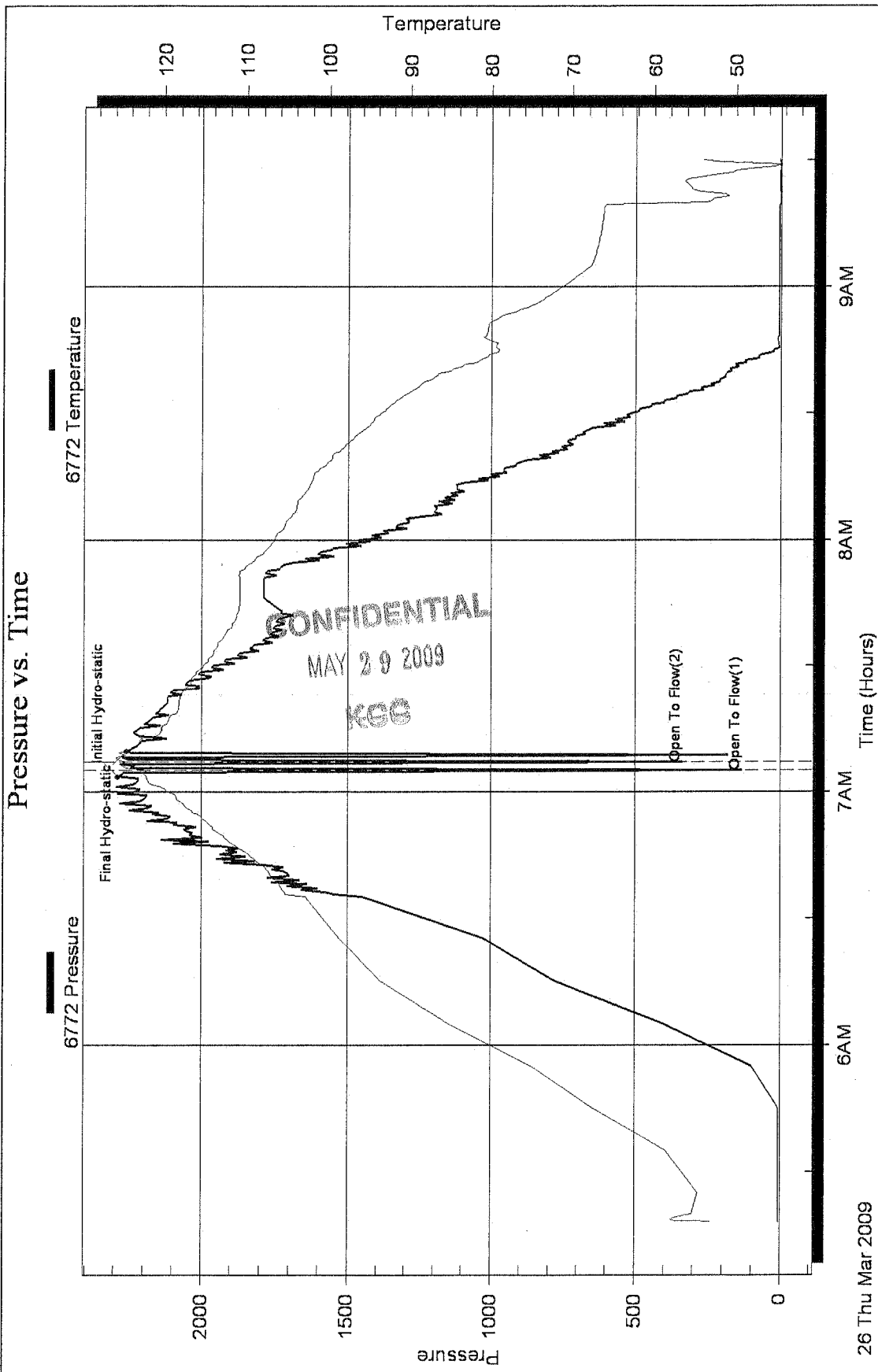
Serial #:

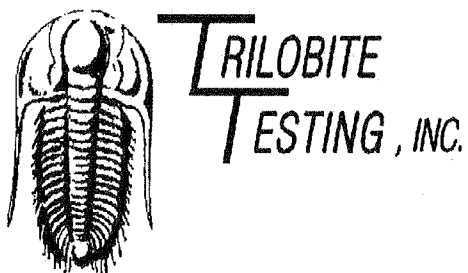
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State RD 4
Olmitz, KS 67564

CONFIDENTIAL

MAY 29 2009

KCC

ATTN: Steve Davis

31-18-30 Lane, KS

Whiting 2-31

Start Date: 2009.03.26 @ 09:54:30

End Date: 2009.03.26 @ 17:01:24

Job Ticket #: 34271

DST #: 6

KANSAS CORPORATION COMMISSION

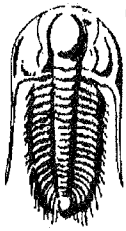
JUN 01 2009

RECEIVED

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

562 W State RD 4
Olmitz, KS 67564

ATTN: Steve Davis

Whiting 2-31

31-18-30 Lane, KS

Job Ticket: 34271

DST#: 6

Test Start: 2009.03.26 @ 09:54:30

GENERAL INFORMATION:

Formation: **Ft. Scott- Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:28:10

Time Test Ended: 17:01:24

Interval: **4516.00 ft (KB) To 4575.00 ft (KB) (TVD)**

Total Depth: 4575.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Reference Elevations: 2902.00 ft (KB)

2897.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6772

Inside

Press@RunDepth: 195.98 psig @ 4517.00 ft (KB)

Start Date: 2009.03.26

End Date:

2009.03.26

Capacity: 7000.00 psig

Last Calib.: 2009.03.26

Start Time: 09:54:30

End Time:

17:01:24

Time On Btm: 2009.03.26 @ 12:26:25

Time Off Btm: 2009.03.26 @ 14:44:24

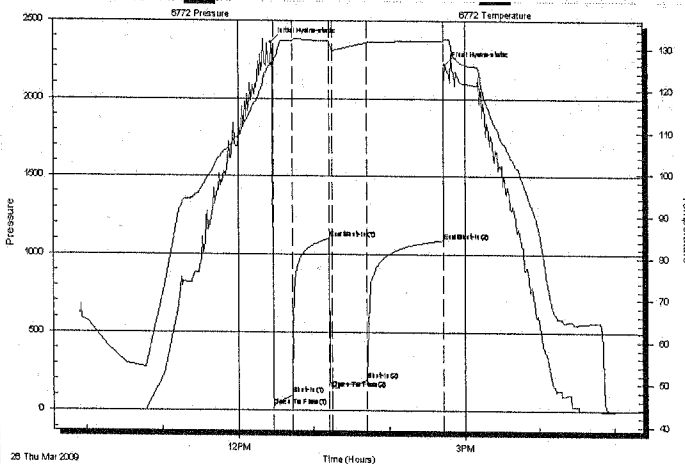
TEST COMMENT: IF: 1/4 blow built to 6 in 15 min.

IS: No return.

FF: 1/4 blow built to 7 in 30 min.

FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

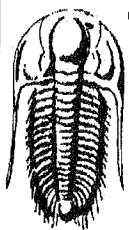
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2360.42	126.00	Initial Hydro-static
2	27.60	125.98	Open To Flow (1)
17	100.20	131.89	Shut-In(1)
47	1101.81	131.64	End Shut-In(1)
49	137.09	129.55	Open To Flow (2)
76	195.98	131.35	Shut-In(2)
137	1090.39	131.85	End Shut-In(2)
138	2218.00	132.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	gocm 10%g 25%o 65%m	0.61
124.00	ocm 15%o 85%m	1.17
61.00	ocm 10%o 90%m	0.86

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

Whiting 2-31

562 W State RD 4
Olmitz, KS 67564

31-18-30 Lane, KS

Job Ticket: 34271

DST#: 6

ATTN: Steve Davis

Test Start: 2009.03.26 @ 09:54:30

Tool Information

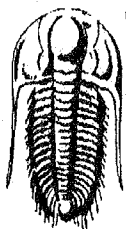
Drill Pipe:	Length: 4316.00 ft	Diameter: 3.80 inches	Volume: 60.54 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 188.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose:	80000.00 lb
		Total Volume:	61.46 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	4516.00 ft			Final	72000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	59.00 ft				
Tool Length:	86.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4490.00	
Shut In Tool	5.00			4495.00	
Hydraulic tool	5.00			4500.00	
Jars	5.00			4505.00	
Safety Joint	2.00			4507.00	
Packer	5.00			4512.00	27.00 Bottom Of Top Packer
Packer	4.00			4516.00	
Stubb	1.00			4517.00	
Recorder	0.00	6772	Inside	4517.00	
Recorder	0.00	8373	Inside	4517.00	
Perforations	21.00			4538.00	
Change Over Sub	1.00			4539.00	
Drill Pipe	30.00			4569.00	
Change Over Sub	1.00			4570.00	
Bullnose	5.00			4575.00	59.00 Bottom Packers & Anchor

Total Tool Length: 86.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Whiting 2-31

562 W State RD 4
Olmitz, KS 67564

31-18-30 Lane, KS

Job Ticket: 34271

DST#: 6

ATTN: Steve Davis

Test Start: 2009.03.26 @ 09:54:30

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	gocm 10%g 25%o 65%m	0.615
124.00	ocm 15%o 85%m	1.165
61.00	ocm 10%o 90%m	0.856

Total Length: 310.00 ft

Total Volume: 2.636 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

