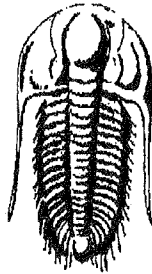


15-101-22015

31-18s-30w

IND



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 West State Rd 4
Oimitz KS 67564

ATTN: Steve Davis

31 18 30 Lane KS

Whiting 1-31

Start Date: 2007.05.27 @ 06:00:29

End Date: 2007.05.27 @ 15:01:54

Job Ticket #: 27678

DST #: 1

KCC
SEP 13 2007
CONFIDENTIAL

RECEIVED
KANSAS CORPORATION COMMISSION

SEP 14 2007

CONSERVATION DIVISION
WICHITA, KS

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Larson Engineering Inc

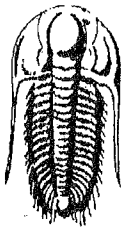
Whiting 1-31

31 18 30 Lane KS

DST # 1

Middle Creek-L

2007.05.27



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering Inc

562 West State Rd 4
Oimitz KS 67564

ATTN: Steve Davis

Whiting 1-31

31 18 30 Lane KS

Job Ticket: 27678

DST#: 1

Test Start: 2007.05.27 @ 06:00:29

GENERAL INFORMATION:

Formation: **Middle Creek- L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:41:39

Time Test Ended: 15:01:54

Interval: **4288.00 ft (KB) To 4308.00 ft (KB) (TVD)**

Total Depth: 4308.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Reference Elevations: 2906.00 ft (KB)

2901.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6772

Inside

Press@RunDepth: 523.92 psig @ 4289.00 ft (KB)

Start Date: 2007.05.27

End Date:

2007.05.27

Capacity: 7000.00 psig

Last Calib.: 2007.05.27

Start Time: 06:00:29

End Time:

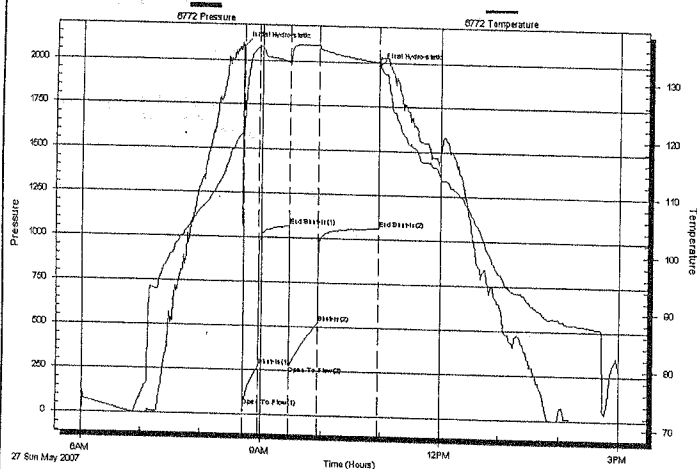
15:01:54

Time On Btm: 2007.05.27 @ 08:41:24

Time Off Btm: 2007.05.27 @ 10:57:38

TEST COMMENT: IF BOB in 4 min.
IS No return
FF BOB in 6 min.
FS No return

Pressure vs. Time



PRESSURE SUMMARY

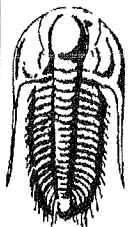
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2077.08	120.36	Initial Hydro-static
1	48.03	120.02	Open To Flow (1)
16	272.51	135.37	Shut-In (1)
46	1066.53	132.82	End Shut-In (1)
46	281.41	132.46	Open To Flow (2)
75	523.92	135.96	Shut-In (2)
136	1060.79	133.14	End Shut-In (2)
137	1977.28	133.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
868.00	MCW 95%W 5%M	9.61
310.00	WCM 40%W 60%M	4.35

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

Whiting 1-31

562 West State Rd 4
Olmits KS 67564

31 18 30 Lane KS

Job Ticket: 27678

DST#: 1

ATTN: Steve Davis

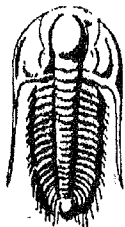
Test Start: 2007.05.27 @ 06:00:29

Tool Information

Drill Pipe:	Length: 3997.00 ft	Diameter: 3.80 inches	Volume: 56.07 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: 282.00 ft	Diameter: 2.25 inches	Volume: 1.39 bbl	Weight to Pull Loose:	70000.00 lb
		Total Volume:	57.46 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	4288.00 ft			Final	52000.00 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			4262.00	
Shut In Tool	5.00			4267.00	
Hydraulic tool	5.00			4272.00	
Jars	5.00			4277.00	
Safety Joint	2.00			4279.00	
Packer	5.00			4284.00	27.00 Bottom Of Top Packer
Packer	4.00			4288.00	
Stubb	1.00			4289.00	
Recorder	0.00	6772	Inside	4289.00	
Perforations	14.00			4303.00	
Recorder	0.00	7437	Outside	4303.00	
Bullnose	5.00			4308.00	20.00 Bottom Packers & Anchor

Total Tool Length: 47.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Whiting 1-31

562 West State Rd 4
Oimitz KS 67564

31 18 30 Lane KS

Job Ticket: 27678

DST#: 1

ATTN: Steve Davis

Test Start: 2007.05.27 @ 06:00:29

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 43.00 sec/qt

Water Loss: 11.14 in³

Resistivity: 0.00 ohm.m

Salinity: 2400.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

0 deg API

Water Salinity: 26000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
868.00	MCW 95%W 5%M	9.607
310.00	WCM 40%W 60%M	4.348

Total Length: 1178.00 ft

Total Volume: 13.955 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

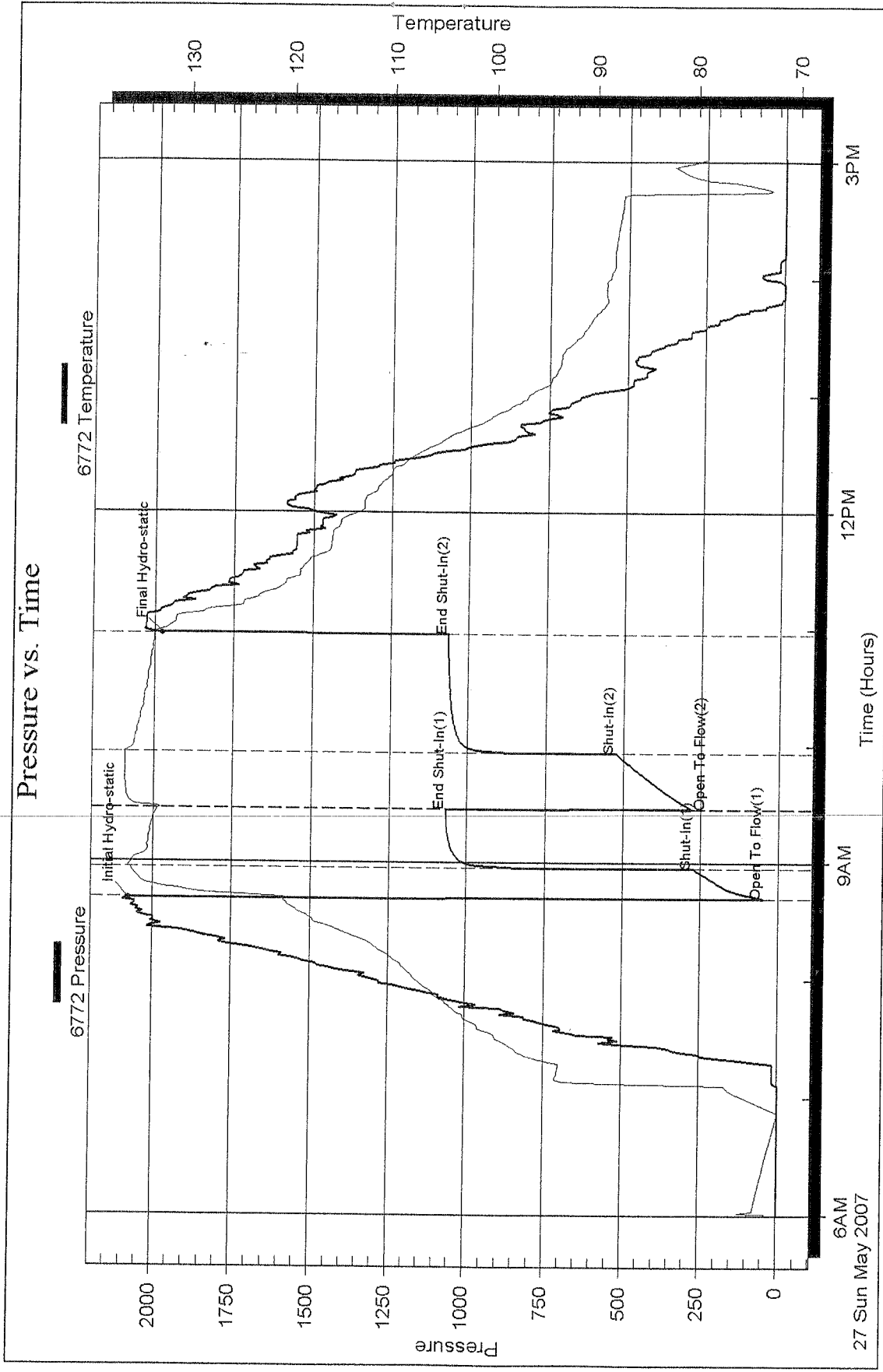
Serial #: 6772

Inside

Larson Engineering Inc

31 18 30 Lane KS

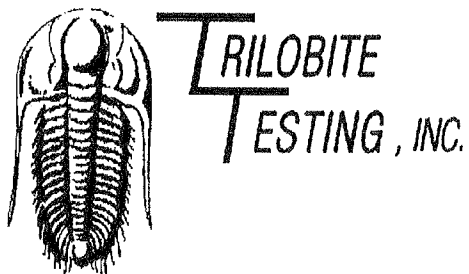
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 27678

Printed: 2007.06.01 @ 10:43:06 Page 5



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 West State Rd 4
Olmitz KS 67564

ATTN: Steve Davis

31 18 30 Lane KS

Whiting 1-31

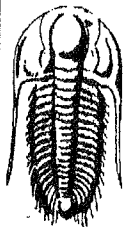
Start Date: 2007.05.27 @ 06:00:29

End Date: 2007.05.27 @ 15:01:54

Job Ticket #: 27678

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 Engineering Inc

562 West State Rd 4
Olmitz KS 67564

ATTN: Steve Davis

Whiting 1-31

31 18 30 Lane KS

Job Ticket: 27678

DST#: 1

Test Start: 2007.05.27 @ 06:00:29

GENERAL INFORMATION:

Formation: **Middle Creek- L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:41:39

Time Test Ended: 15:01:54

Interval: **4288.00 ft (KB) To 4308.00 ft (KB) (TVD)**

Total Depth: 4308.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Reference Elevations: 2906.00 ft (KB)

2901.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6772

Inside

Press@RunDepth: 523.92 psig @ 4289.00 ft (KB)

Start Date: 2007.05.27

End Date:

2007.05.27

Capacity: 7000.00 psig

Last Calib.: 2007.05.27

Start Time: 06:00:29

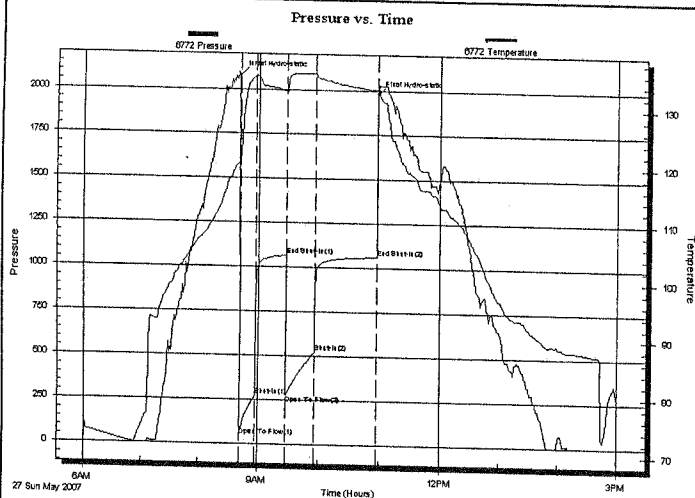
End Time:

15:01:54

Time On Btm: 2007.05.27 @ 08:41:24

Time Off Btm: 2007.05.27 @ 10:57:38

TEST COMMENT: IF BOB in 4 min.
IS No return
FF BOB in 6 min.
FS No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2077.08	120.36	Initial Hydro-static
1	48.03	120.02	Open To Flow (1)
16	272.51	135.37	Shut-In (1)
46	1066.53	132.82	End Shut-In (1)
46	281.41	132.46	Open To Flow (2)
75	523.92	135.96	Shut-In (2)
136	1060.79	133.14	End Shut-In (2)
137	1977.28	133.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
868.00	MCW 95%W 5%M	9.61
310.00	WCM 40%W 60%M	4.35

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

Whiting 1-31

562 West State Rd 4
Olmitz KS 67564

31 18 30 Lane KS

Job Ticket: 27678

DST#: 1

ATTN: Steve Davis

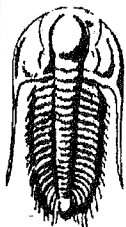
Test Start: 2007.05.27 @ 06:00:29

Tool Information

Drill Pipe:	Length: 3997.00 ft	Diameter: 3.80 inches	Volume: 56.07 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: 282.00 ft	Diameter: 2.25 inches	Volume: 1.39 bbl	Weight to Pull Loose:	70000.00 lb
		Total Volume:	57.46 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	4288.00 ft			Final	52000.00 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			4262.00	
Shut In Tool	5.00			4267.00	
Hydraulic tool	5.00			4272.00	
Jars	5.00			4277.00	
Safety Joint	2.00			4279.00	
Packer	5.00			4284.00	27.00 Bottom Of Top Packer
Packer	4.00			4288.00	
Stubb	1.00			4289.00	
Recorder	0.00	6772	Inside	4289.00	
Perforations	14.00			4303.00	
Recorder	0.00	7437	Outside	4303.00	
Bullnose	5.00			4308.00	20.00 Bottom Packers & Anchor

Total Tool Length: 47.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Whiting 1-31

562 West State Rd 4
Olmitz KS 67564

31 18 30 Lane KS

Job Ticket: 27678

DST#: 1

ATTN: Steve Davis

Test Start: 2007.05.27 @ 06:00:29

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 43.00 sec/qt

Water Loss: 11.14 in³

Resistivity: 0.00 ohm.m

Salinity: 2400.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

0 deg API

Water Salinity:

26000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
868.00	MCW 95%W 5%M	9.607
310.00	WCM 40%W 60%M	4.348

Total Length: 1178.00 ft

Total Volume: 13.955 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

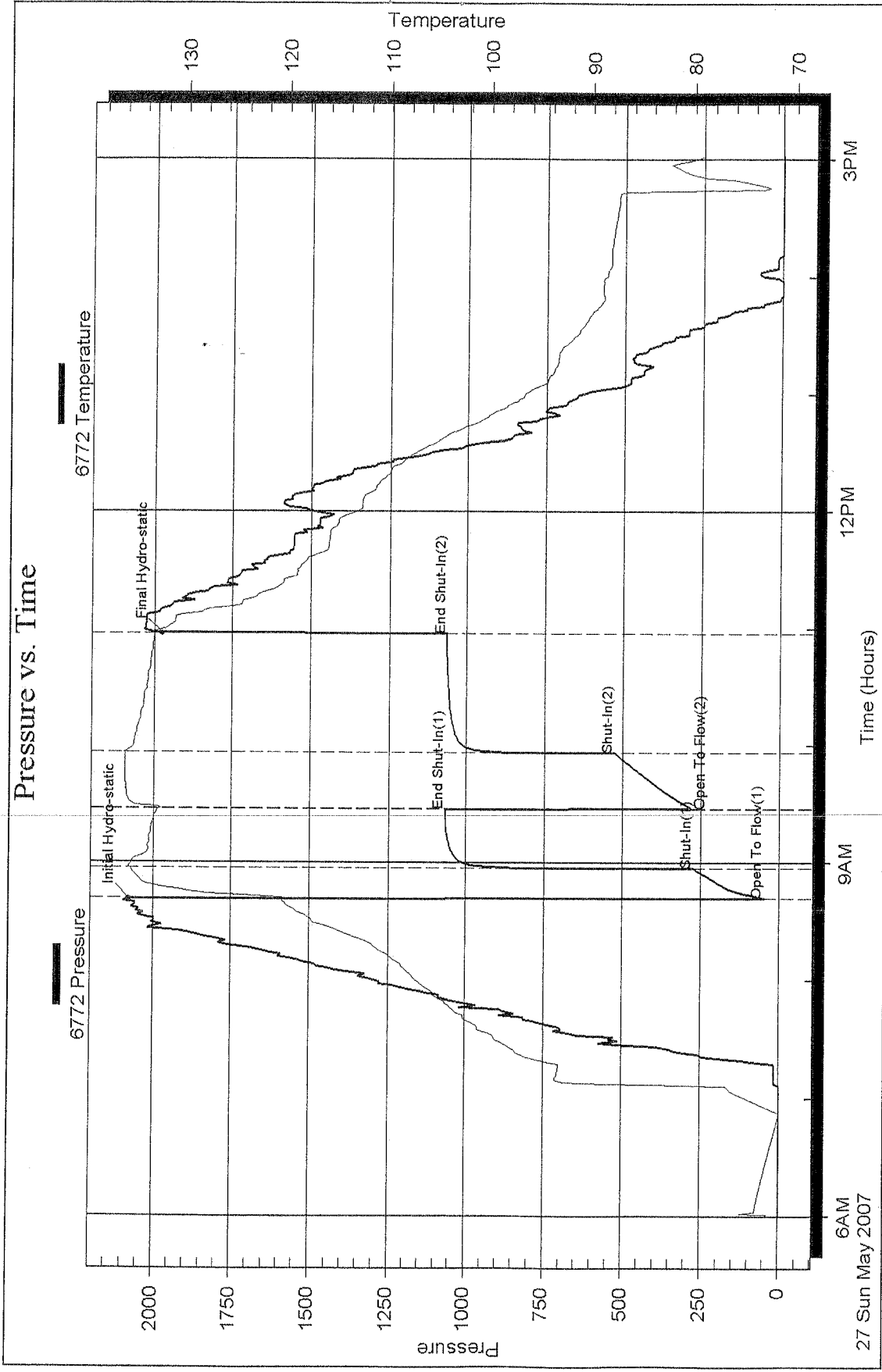
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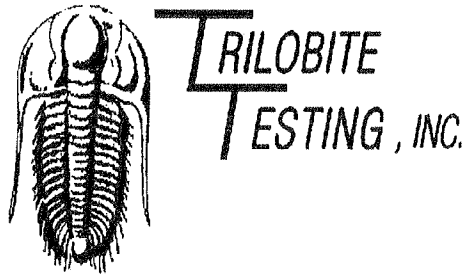
Serial #: 6772

Inside Larson Engineering Inc

31 18 30 Lane KS

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 West State Rd 4
Olmitz KS 67564

ATTN: Steve Davis

31 18 30 Lane KS

Whiting 1-31

Start Date: 2007.05.28 @ 12:25:41

End Date: 2007.05.28 @ 19:11:35

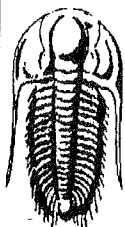
Job Ticket #: 27679

DST #: 2

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 Engineering Inc

562 West State Rd 4
Olmitz KS 67564

ATTN: Steve Davis

Whiting 1-31

31 18 30 Lane KS

Job Ticket: 27679

DST#: 2

Test Start: 2007.05.28 @ 12:25:41

GENERAL INFORMATION:

Formation: **Altamont- Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:24:51

Time Test Ended: 19:11:35

Interval: **4350.00 ft (KB) To 4464.00 ft (KB) (TVD)**

Total Depth: 4465.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Reference Elevations: 2906.00 ft (KB)

2901.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6772 Inside

Press@RunDepth: 103.83 psig @ 4351.00 ft (KB)

Start Date: 2007.05.28

End Date:

2007.05.28

Start Time: 12:25:41

End Time:

19:11:35

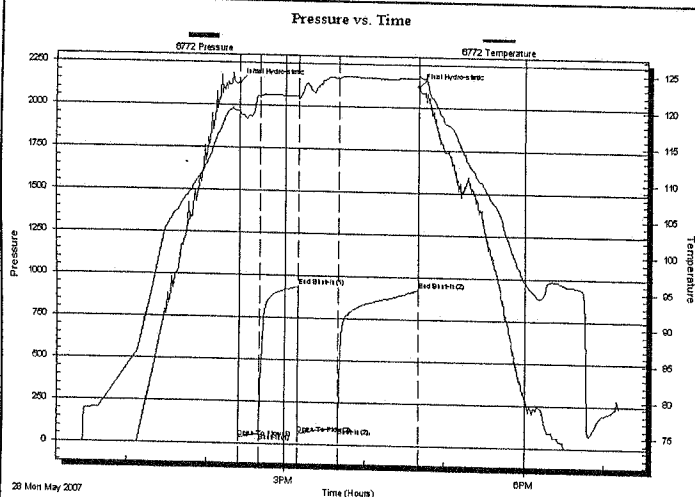
Capacity: 7000.00 psig

Last Calib.: 2007.05.28

Time On Btm: 2007.05.28 @ 14:24:36

Time Off Btm: 2007.05.28 @ 16:40:36

TEST COMMENT: IF 1/2 " blow blow to surface blow
IS No return
FF Surface blow built to 1/4 in 30 min.
FS No return



PRESSURE SUMMARY

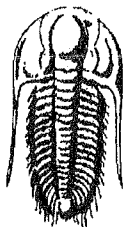
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2131.08	119.58	Initial Hydro-static
1	37.72	118.99	Open To Flow (1)
16	62.25	121.47	Shut-In(1)
45	937.13	121.62	End Shut-In(1)
46	65.98	121.22	Open To Flow (2)
76	103.83	124.22	Shut-In(2)
136	925.98	124.39	End Shut-In(2)
136	2122.55	124.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
167.00	100%M	0.82

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

Whiting 1-31

562 West State Rd 4
Olmitz KS 67564

31 18 30 Lane KS

Job Ticket: 27679

DST#: 2

ATTN: Steve Davis

Test Start: 2007.05.28 @ 12:25:41

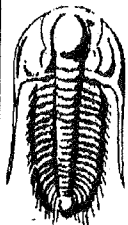
Tool Information

Drill Pipe:	Length: 4067.00 ft	Diameter: 3.80 inches	Volume: 57.05 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: 282.00 ft	Diameter: 2.25 inches	Volume: 1.39 bbl	Weight to Pull Loose: 70000.00 lb
		Total Volume: 58.44 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4350.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	-ft			
Interval between Packers:	114.00 ft			
Tool Length:	141.00 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			4324.00	
Shut In Tool	5.00			4329.00	
Hydraulic tool	5.00			4334.00	
Jars	5.00			4339.00	
Safety Joint	2.00			4341.00	
Packer	5.00			4346.00	27.00 Bottom Of Top Packer
Packer	4.00			4350.00	
Stubb	1.00			4351.00	
Recorder	0.00	6772	Inside	4351.00	
Perforations	12.00			4363.00	
Change Over Sub	1.00			4364.00	
Drill Pipe	94.00			4458.00	
Change Over Sub	1.00			4459.00	
Recorder	0.00	7437	Outside	4459.00	
Bullnose	5.00			4464.00	114.00 Bottom Packers & Anchor

Total Tool Length: 141.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Whiting 1-31

562 West State Rd 4
Olmitz KS 67564

31 18 30 Lane KS

Job Ticket: 27679

DST#: 2

ATTN: Steve Davis

Test Start: 2007.05.28 @ 12:25:41

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 49.00 sec/qt

Water Loss: 10.36 in³

Resistivity: 0.00 ohm.m

Salinity: 2500.00 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
167.00	100%M	0.821

Total Length: 167.00 ft

Total Volume: 0.821 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

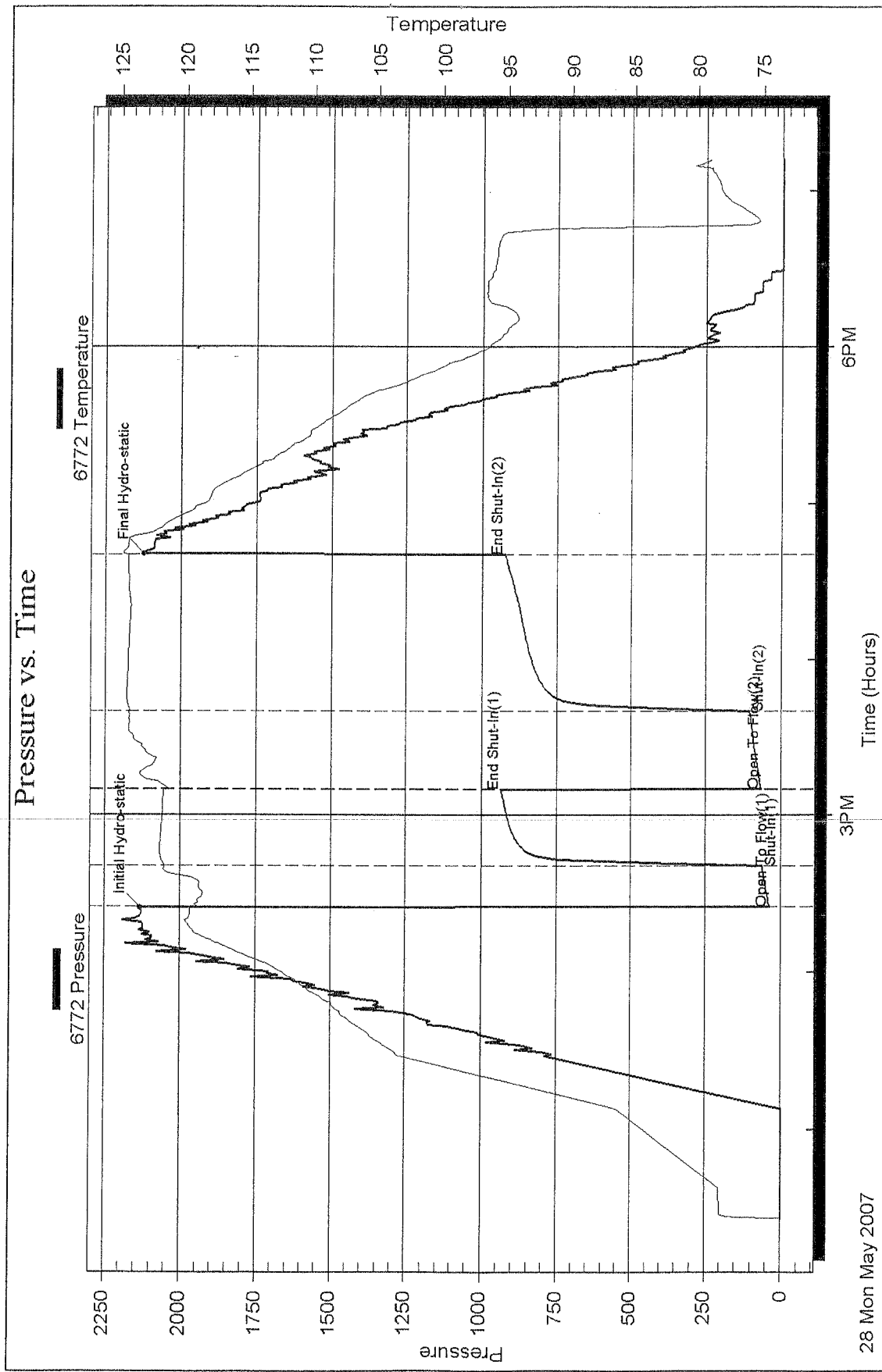
Recovery Comments:

Serial #: 6772

Inside Larson Engineering Inc

31 18 30 Lane KS

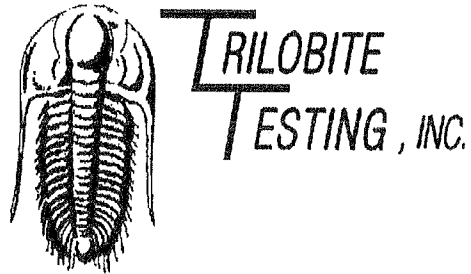
DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 27679

Printed: 2007.06.01 @ 10:44:12 Page 5



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 West State Rd 4
Olmitz KS 67564

ATTN: Steve Davis

31 18 30 Lane KS

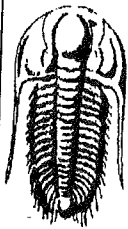
Whiting 1-31

Start Date: 2007.05.29 @ 07:23:15

End Date: 2007.05.29 @ 14:20:39

Job Ticket #: 27680 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 Engineering Inc

562 West State Rd 4
Olmitz KS 67564

ATTN: Steve Davis

Whiting 1-31

31 18 30 Lane KS

Job Ticket: 27680

DST#: 3

Test Start: 2007.05.29 @ 07:23:15

GENERAL INFORMATION:

Formation: **Myric Station - Ft.**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:43:25

Time Test Ended: 14:20:39

Interval: **4469.00 ft (KB) To 4515.00 ft (KB) (TVD)**

Total Depth: 4515.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Reference Elevations: 2906.00 ft (KB)

2901.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6772 Inside

Press@RunDepth: 44.48 psig @ 4470.00 ft (KB)

Start Date: 2007.05.29

End Date:

Start Time: 07:23:15

End Time:

2007.05.29

14:20:39

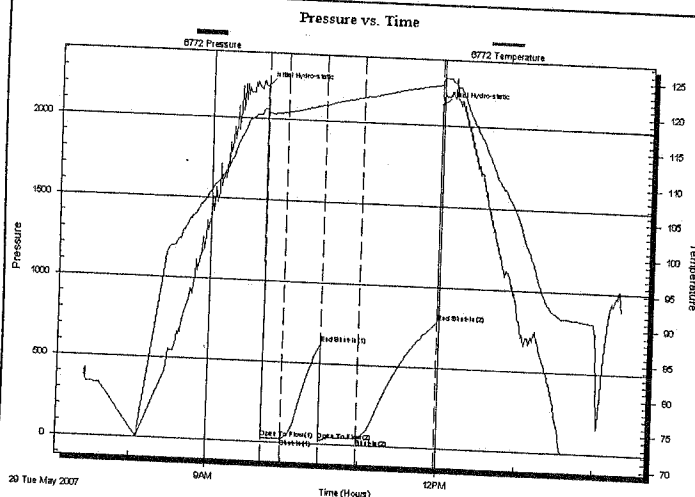
Capacity: 7000.00 psig

Last Calib.: 2007.05.29

Time On Btm: 2007.05.29 @ 09:43:10

Time Off Btm: 2007.05.29 @ 11:58:54

TEST COMMENT: IF Surface blow died in 5 min.
IS No return
FF No blow
FS No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2203.50	119.56	Initial Hydro-static
1	24.63	118.79	Open To Flow (1)
16	26.34	119.15	Shut-In (1)
46	626.09	120.40	End Shut-In (1)
46	26.50	120.27	Open To Flow (2)
75	44.48	121.66	Shut-In (2)
136	788.66	123.88	End Shut-In (2)
136	2129.62	124.35	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	Mud 100%M	0.30

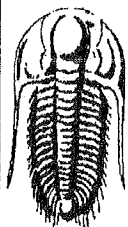
Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Trilobite Testing, Inc

Ref. No: 27680

Printed: 2007.06.01 @ 10:44:51 Page 2



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

562 West State Rd 4
Olmitz KS 67564

ATTN: Steve Davis

Whiting 1-31

31 18 30 Lane KS

Job Ticket: 27680

DST#: 3

Test Start: 2007.05.29 @ 07:23:15

Tool Information

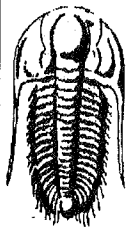
Drill Pipe:	Length: 4190.00 ft	Diameter: 3.80 inches	Volume: 58.77 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 282.00 ft	Diameter: 2.25 inches	Volume: 1.39 bbl	Weight to Pull Loose:	70000.00 lb
		Total Volume:	60.16 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	4469.00 ft			Final	50000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	46.00 ft				
Tool Length:	73.00 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			4443.00	
Shut in Tool	5.00			4448.00	
Hydraulic tool	5.00			4453.00	
Jars	5.00			4458.00	
Safety Joint	2.00			4460.00	
Packer	5.00			4465.00	27.00 Bottom Of Top Packer
Packer	4.00			4469.00	
Stubb	1.00			4470.00	
Recorder	0.00	6772	Inside	4470.00	
Perforations	7.00			4477.00	
Change Over Sub	1.00			4478.00	
Drill Pipe	31.00			4509.00	
Change Over Sub	1.00			4510.00	
Recorder	0.00	7437	Outside	4510.00	
Bullnose	5.00			4515.00	46.00 Bottom Packers & Anchor

Total Tool Length: 73.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Whiting 1-31

562 West State Rd 4
Olmitz KS 67564

31 18 30 Lane KS

Job Ticket: 27680

DST#: 3

ATTN: Steve Davis

Test Start: 2007.05.29 @ 07:23:15

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 47.00 sec/qt

Water Loss: 11.12 in³

Resistivity: 0.00 ohm.m

Salinity: 2900.00 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
60.00	Mud 100%M	0.295

Total Length: 60.00 ft

Total Volume: 0.295 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

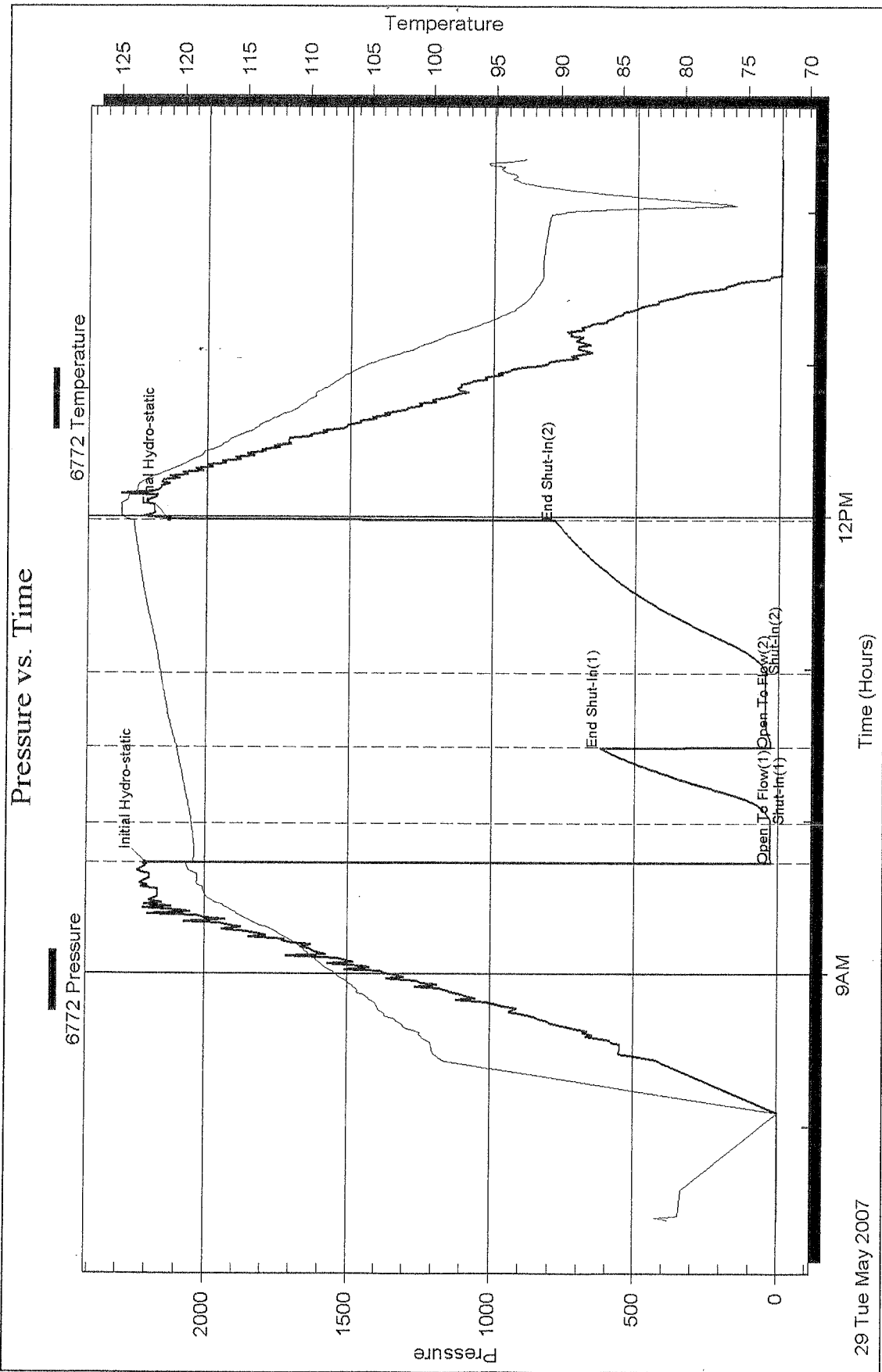
Serial #:

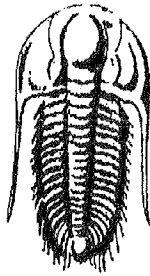
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 West State Rd 4
Olmits KS 67564

ATTN: Steve Davis

31 18 30 Lane KS

Whiting 1-31

Start Date: 2007.05.30 @ 06:43:59

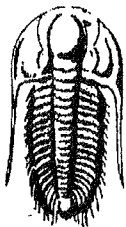
End Date: 2007.05.30 @ 13:34:08

Job Ticket #: 27681 DST #: 4

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 Engineering Inc

562 West State Rd 4
Olmitz KS 67564

ATTN: Steve Davis

Whiting 1-31

31 18 30 Lane KS

Job Ticket: 27681

DST#: 4

Test Start: 2007.05.30 @ 06:43:59

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:10:39

Time Test Ended: 13:34:08

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Interval: **4532.00 ft (KB) To 4580.00 ft (KB) (TVD)**

Total Depth: 4580.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2906.00 ft (KB)

2901.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6772 Inside

Press@RunDepth: 27.17 psig @ 4533.00 ft (KB)

Start Date: 2007.05.30

End Date:

2007.05.30

Start Time: 06:43:59

End Time:

13:34:08

Capacity: 7000.00 psig

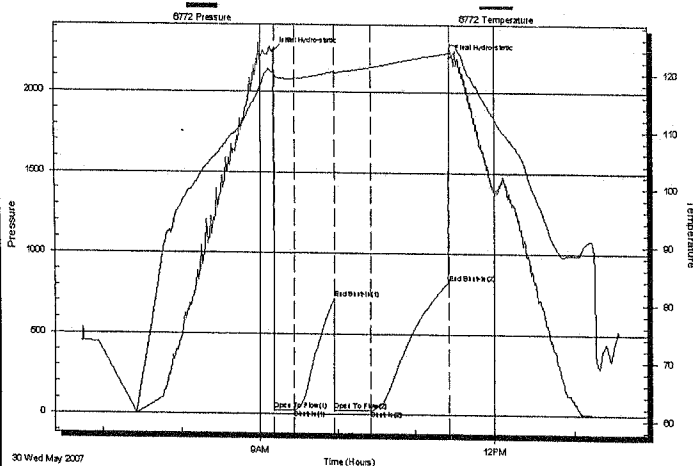
Last Calib.: 2007.05.30

Time On Btm: 2007.05.30 @ 09:10:24

Time Off Btm: 2007.05.30 @ 11:25:53

TEST COMMENT: IF Surface blow died in 7 min.
IS No return
FF No blow
FS No return

Pressure vs. Time



PRESSURE SUMMARY

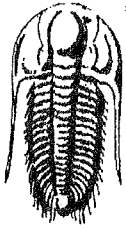
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2253.22	120.07	Initial Hydro-static
1	23.89	119.33	Open To Flow (1)
16	25.11	119.05	Shut-In (1)
47	718.54	120.33	End Shut-In (1)
48	25.41	120.11	Open To Flow (2)
76	27.17	121.10	Shut-In (2)
135	823.02	123.62	End Shut-In (2)
136	2214.52	124.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100%M	0.05

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

Whiting 1-31

562 West State Rd 4
Olmitz KS 67564

31 18 30 Lane KS

Job Ticket: 27681

DST#: 4

ATTN: Steve Davis

Test Start: 2007.05.30 @ 06:43:59

Tool Information

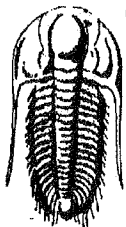
Drill Pipe:	Length: 4275.00 ft	Diameter: 3.80 inches	Volume: 59.97 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 255.00 ft	Diameter: 2.25 inches	Volume: 1.25 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 61.22 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	4532.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	- ft				
Interval between Packers:	48.00 ft				
Tool Length:	75.00 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			4506.00	
Shut In Tool	5.00			4511.00	
Hydraulic tool	5.00			4516.00	
Jars	5.00			4521.00	
Safety Joint	2.00			4523.00	
Packer	5.00			4528.00	27.00 Bottom Of Top Packer
Packer	4.00			4532.00	
Stubb	1.00			4533.00	
Recorder	0.00	6772	Inside	4533.00	
Perforations	9.00			4542.00	
Change Over Sub	1.00			4543.00	
Drill Pipe	31.00			4574.00	
Change Over Sub	1.00			4575.00	
Recorder	0.00	7437	Outside	4575.00	
Bullnose	5.00			4580.00	48.00 Bottom Packers & Anchor

Total Tool Length: 75.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Whiting 1-31

562 West State Rd 4
Olmitz KS 67564

31 18 30 Lane KS

Job Ticket: 27681

DST#: 4

ATTN: Steve Davis

Test Start: 2007.05.30 @ 06:43:59

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: 47.00 sec/qt

Cushion Volume:

bbl

Water Loss: 10.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2900.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud 100%M	0.049

Total Length: 10.00 ft

Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

