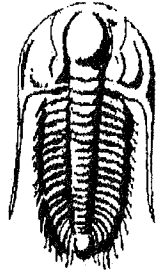


15-101-22066

21-16s-27w

REC



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz KS 67564-8561

CONFIDENTIAL

MAY 01 2008

KCC

ATTN: Bob Lewellyn

21 16S 27W Lane KS

Wheatcroft #1-21

Start Date: 2008.01.10 @ 15:40:00

End Date: 2008.01.10 @ 23:25:00

Job Ticket #: 29750 DST #: 1

Larson Engineering Inc

Wheatcroft #1-21

21 16S 27W Lane KS

DST # 1

"H"

2008.01.10

**RECEIVED
KANSAS CORPORATION COMMISSION**

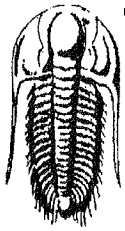
MAY 02 2008

**CONSERVATION DIVISION
WICHITA, KS**

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 W State Rd 4
Olmritz KS 67564-8561

ATTN: Bob Lewellyn

Wheatcroft #1-21

21 16S 27W Lane KS

Job Ticket: 29750

DST#: 1

Test Start: 2008.01.10 @ 15:40:00

GENERAL INFORMATION:

Formation: "H"
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:46:45
Time Test Ended: 23:25:00

Test Type: Conventional Bottom Hole
Tester: Chuck Smith
Unit No: 37

Interval: 4138.00 ft (KB) To 4170.00 ft (KB) (TVD)
Total Depth: 4170.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2720.00 ft (KB)
2715.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8351

Inside

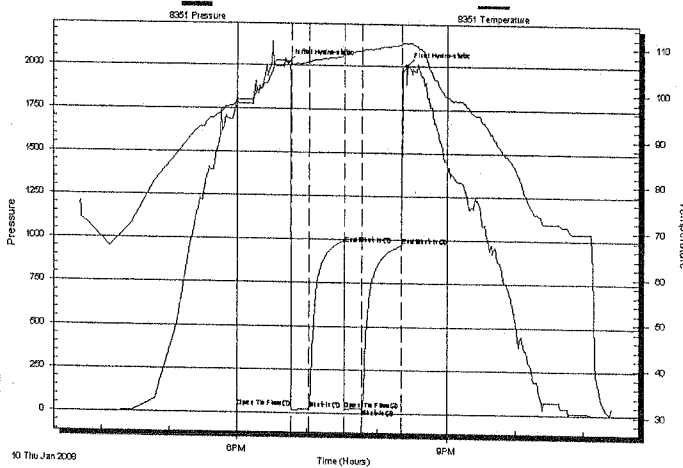
Press@RunDepth: 26.89 psig @ 4142.00 ft (KB)
Start Date: 2008.01.10 End Date: 2008.01.10
Start Time: 15:40:05 End Time: 23:24:59

Capacity: 7000.00 psig
Last Calib.: 2008.01.10
Time On Btm: 2008.01.10 @ 18:44:00
Time Off Btm: 2008.01.10 @ 20:24:15

TEST COMMENT: IF Blow built to 3/4 "
ISI No return
FF Weak surface blow
FSI No return

JAN 13 2008
1000 10:00 AM

Pressure vs. Time



PRESSURE SUMMARY

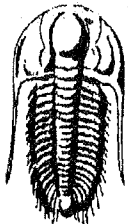
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2009.07	106.91	Initial Hydro-static
3	26.01	105.88	Open To Flow (1)
18	21.62	106.84	Shut-In(1)
49	974.38	108.41	End Shut-In(1)
49	22.65	108.10	Open To Flow (2)
63	26.89	109.29	Shut-In(2)
97	969.56	110.67	End Shut-In(2)
101	2000.60	111.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	DM	0.15

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

Wheatcroft #1-21

562 W State Rd 4
Olmritz KS 67564-8561

21 16S 27W Lane KS

Job Ticket: 29750

DST#: 1

ATTN: Bob Lewellyn

Test Start: 2008.01.10 @ 15:40:00

Tool Information

Drill Pipe:	Length: 4015.00 ft	Diameter: 3.80 inches	Volume: 56.32 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: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 56.93 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	4138.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	60.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

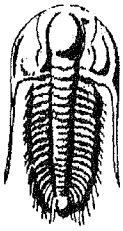
Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Change Over Sub	1.00			4111.00	
Shut In Tool	5.00			4116.00	
Hydraulic tool	5.00			4121.00	
Jars	5.00			4126.00	
Safety Joint	3.00			4129.00	
Packer	5.00			4134.00	28.00 Bottom Of Top Packer
Packer	4.00			4138.00	
Stubb	1.00			4139.00	
Perforations	3.00			4142.00	
Recorder	0.00	8017	Inside	4142.00	
Recorder	0.00	8351	Inside	4142.00	
Perforations	23.00			4165.00	
Bullnose	5.00			4170.00	32.00 Bottom Packers & Anchor

Total Tool Length: 60.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Wheatcroft #1-21

562 W State Rd 4
Olmitz KS 67564-8561

21 16S 27W Lane KS

Job Ticket: 29750

DST#: 1

ATTN: Bob Lewellyn

Test Start: 2008.01.10 @ 15:40:00

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: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.78 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	DM	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

[Faint stamp: WHEATCROFT #1-21]

Serial #: 8351

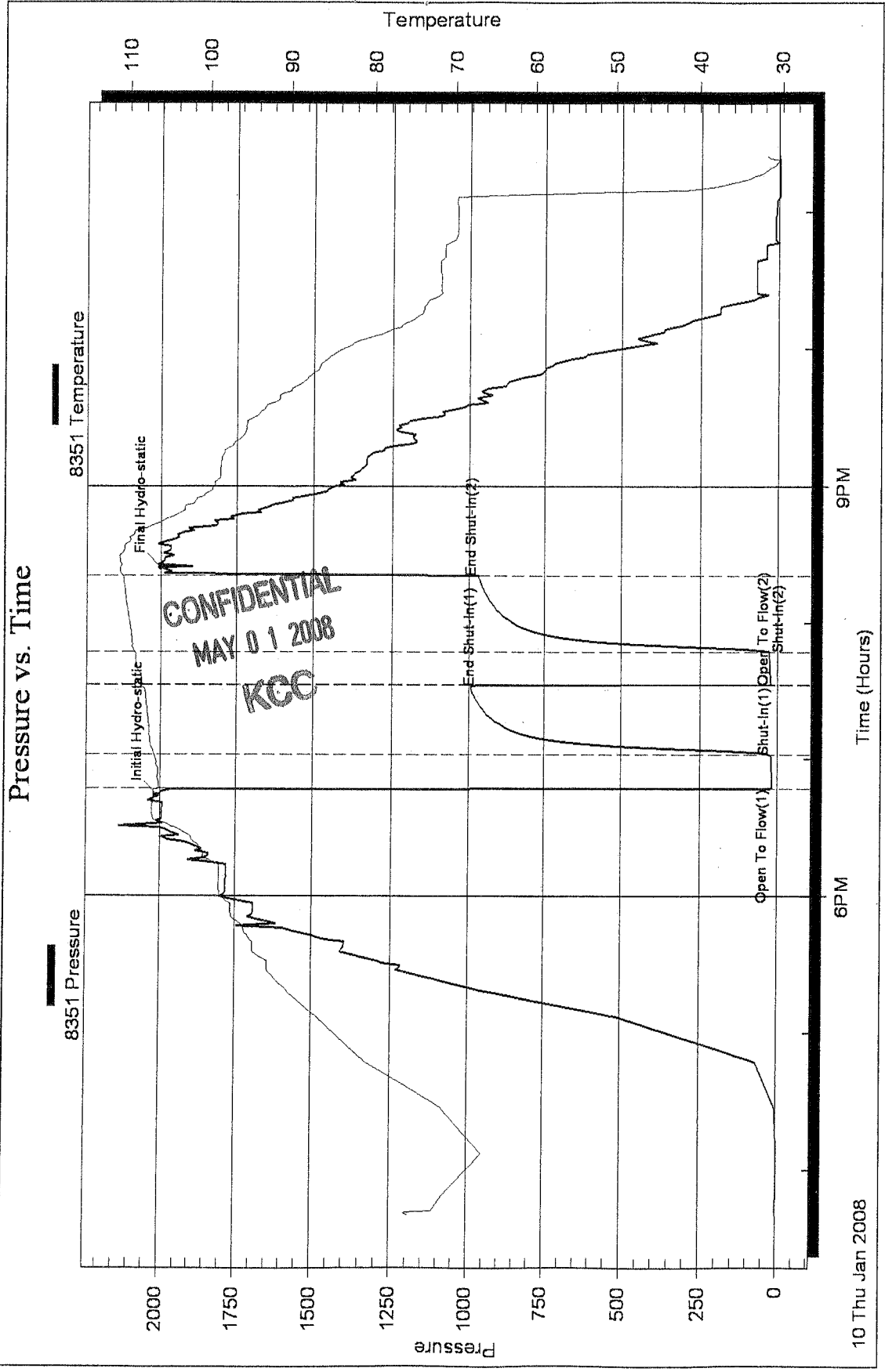
Inside

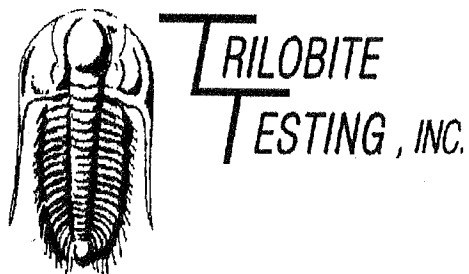
Larson Engineering Inc

21 16S 27W Lane KS

DST Test Number: 1

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz KS 67564-8561

CONFIDENTIAL
MAY 01 2008
KCC

ATTN: Bob Lewellyn

21 16S 27W Lane KS

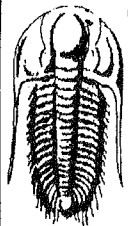
Wheatcroft #1-21

Start Date: 2008.01.11 @ 11:02:10

End Date: 2008.01.11 @ 17:44:55

Job Ticket #: 29526 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 W State Rd 4
Olmitz KS 67564-8561

ATTN: Bob Lewellyn

Wheatcroft #1-21

21 16S 27W Lane KS

Job Ticket: 29526

DST#: 2

Test Start: 2008.01.11 @ 11:02:10

GENERAL INFORMATION:

Formation: "1"
Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:43:25

Time Test Ended: 17:44:55

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: 4167.00 ft (KB) To 4202.00 ft (KB) (TVD)

Total Depth: 4202.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2720.00 ft (KB)

2715.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8351 Inside

Press@RunDepth: 39.57 psig @ 4171.00 ft (KB)

Start Date: 2008.01.11

End Date:

2008.01.11

Start Time: 11:02:15

End Time:

17:44:54

Capacity: 7000.00 psig

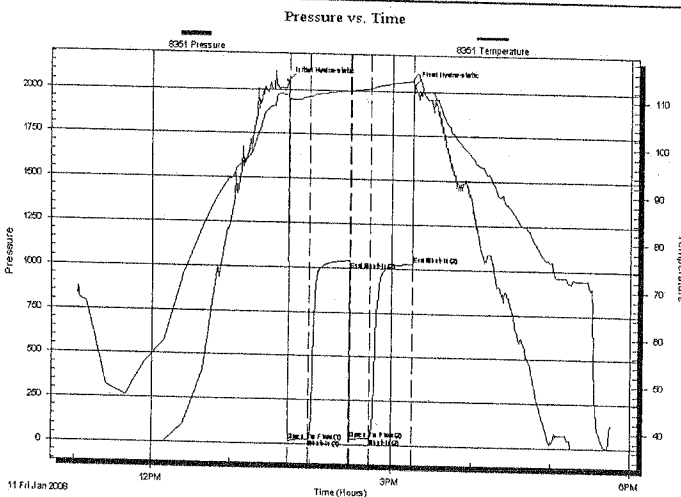
Last Calib.: 2008.01.11

Time On Btm: 2008.01.11 @ 13:41:55

Time Off Btm: 2008.01.11 @ 15:16:25

TEST COMMENT: IF Blow built to 1 "
ISI No return
FF Blow built to 1/4 "
FSI No return

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MAY 11 2008
8005 1 10 YAM



PRESSURE SUMMARY

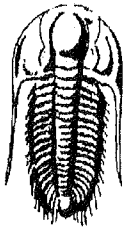
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2049.72	110.44	Initial Hydro-static
2	14.87	109.26	Open To Flow (1)
17	29.34	110.35	Shut-In(1)
47	987.30	111.71	End Shut-In(1)
47	34.84	111.45	Open To Flow (2)
62	39.57	112.21	Shut-In(2)
94	1028.25	113.92	End Shut-In(2)
95	2035.03	114.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	M	0.10
0.00	Spots of Oil in 20 feet	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc
562 W State Rd 4
Olmitz KS 67564-8561
ATTN: Bob Lew ellyn

Wheatcroft #1-21
21 16S 27W Lane KS
Job Ticket: 29526 **DST#: 2**
Test Start: 2008.01.11 @ 11:02:10

Tool Information

Drill Pipe:	Length: 4045.00 ft	Diameter: 3.80 inches	Volume: 56.74 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: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 57.35 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	4167.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 ft			
Tool Length:	63.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

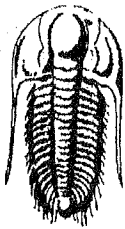
Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4140.00	
Shut In Tool	5.00			4145.00	
Hydraulic tool	5.00			4150.00	
Jars	5.00			4155.00	
Safety Joint	3.00			4158.00	
Packer	5.00			4163.00	28.00 Bottom Of Top Packer
Packer	4.00			4167.00	
Stubb	1.00			4168.00	
Perforations	3.00			4171.00	
Recorder	0.00	8017	Inside	4171.00	
Recorder	0.00	8351	Inside	4171.00	
Perforations	26.00			4197.00	
Bullnose	5.00			4202.00	35.00 Bottom Packers & Anchor

Total Tool Length: 63.00

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**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Wheatcroft #1-21

562 W State Rd 4
Olmitz KS 67564-8561

21 16S 27W Lane KS

Job Ticket: 29526

DST#: 2

ATTN: Bob Lewellyn

Test Start: 2008.01.11 @ 11:02:10

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 52.00 sec/qt

Water Loss: 9.58 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

bbbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
20.00	M	0.098
0.00	Spots of Oil in 20 feet	0.000

Total Length: 20.00 ft

Total Volume: bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: _____

Laboratory Name:

Laboratory Location:

Recovery Comments:

CONFIDENTIAL
MAY 10 2008
7:03 AM

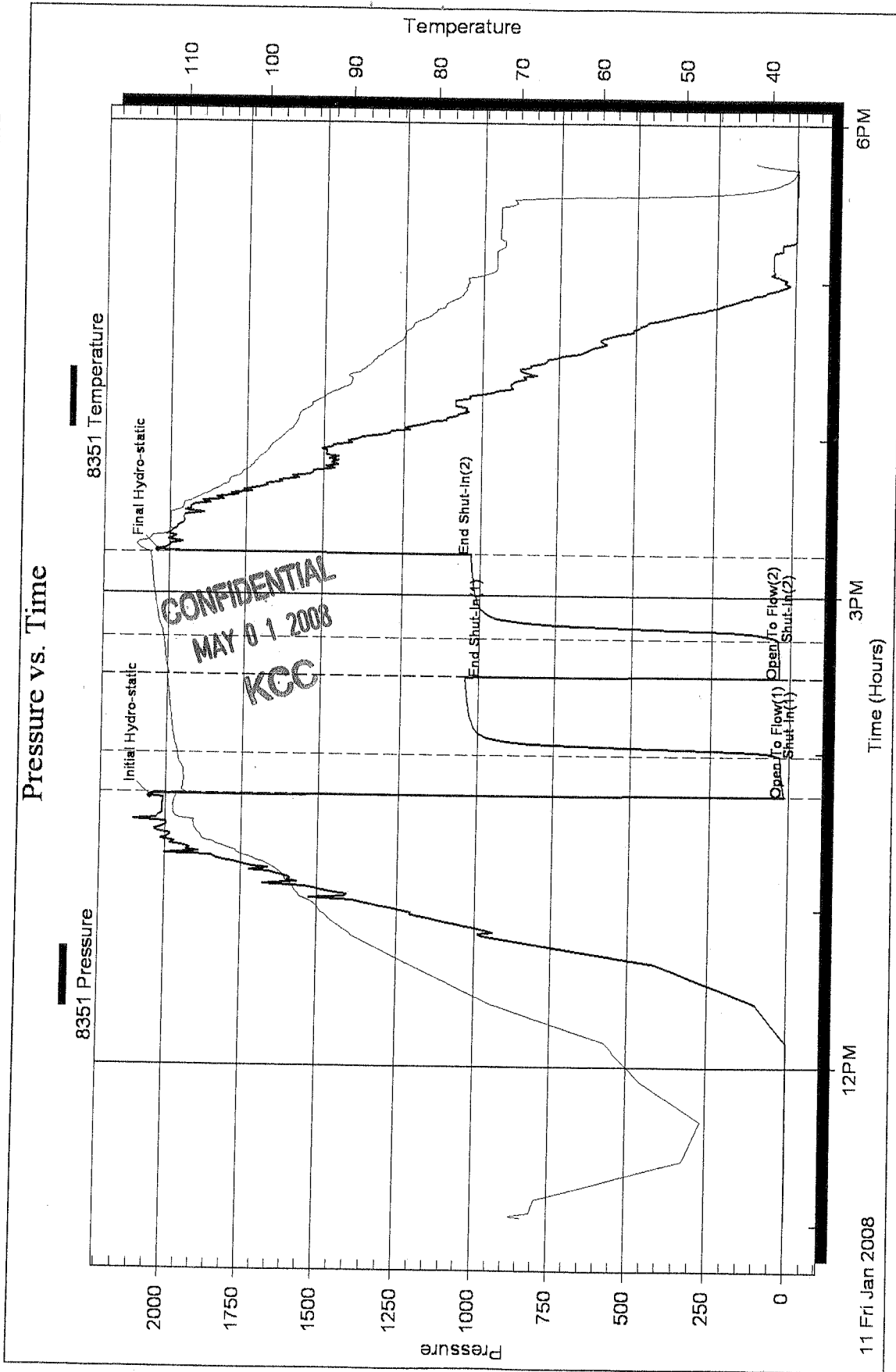
Serial #: 8351

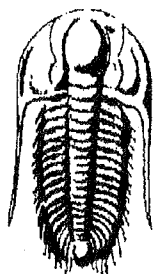
Inside

Larson Engineering Inc

21 16S27W Lane KS

DST Test Number: 2





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz KS 67564-8561

CONFIDENTIAL
MAY 01 2008
KCC

ATTN: Bob Lewellyn

21 16S 27W Lane KS

Wheatcroft #1-21

Start Date: 2008.01.12 @ 16:06:10

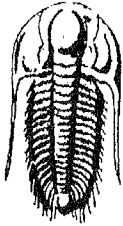
End Date: 2008.01.13 @ 00:33:55

Job Ticket #: 29527 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 W State Rd 4
Olmitz KS 67564-8561

ATTN: Bob Lew ellyn

Wheatcroft #1-21

21 16S 27W Lane KS

Job Ticket: 29527

DST#: 3

Test Start: 2008.01.12 @ 16:06:10

GENERAL INFORMATION:

Formation: "L"
Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:46:40

Time Test Ended: 00:33:55

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: 4262.00 ft (KB) To 4286.00 ft (KB) (TVD)

Total Depth: 4286.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2720.00 ft (KB)

2715.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8351

Inside

Press@RunDepth: 92.87 psig @ 4266.00 ft (KB)

Start Date: 2008.01.12

End Date:

2008.01.13

Capacity: 7000.00 psig

Last Calib.: 2008.01.13

Start Time: 16:06:15

End Time:

00:33:54

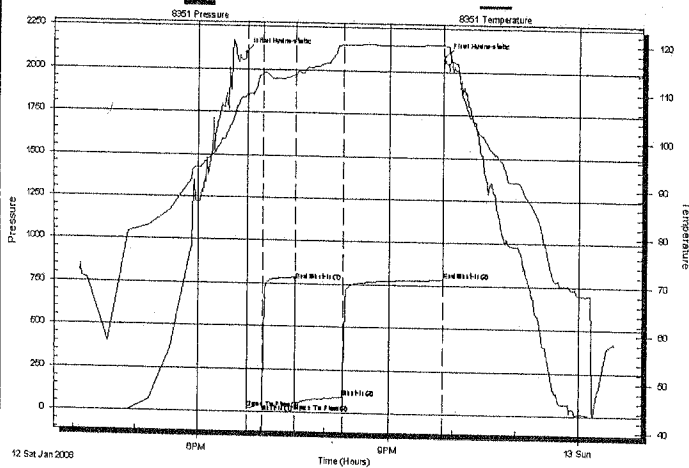
Time On Btm: 2008.01.12 @ 18:44:55

Time Off Btm: 2008.01.12 @ 21:52:10

TEST COMMENT: IF 2" blow
ISI No return
FF 5" blow
FSI No return

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MAY 11 2008

Pressure vs. Time



PRESSURE SUMMARY

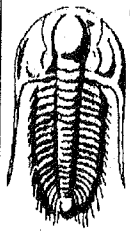
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2099.35	108.83	Initial Hydro-static
2	16.43	108.52	Open To Flow (1)
16	47.04	113.57	Shut-in(1)
47	764.10	113.36	End Shut-in(1)
47	48.73	113.15	Open To Flow (2)
92	92.87	119.79	Shut-in(2)
186	781.52	120.09	End Shut-in(2)
188	2086.97	120.14	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
46.00	100%M	0.23
124.00	MCW 50%M 50%W	1.03

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc
562 W State Rd 4
Olmitz KS 67564-8561
ATTN: Bob Lewellyn

Wheatcroft #1-21
21 16S 27W Lane KS
Job Ticket: 29527 **DST#: 3**
Test Start: 2008.01.12 @ 16:06:10

Tool Information

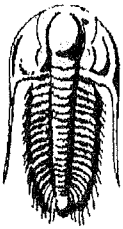
Drill Pipe:	Length: 4138.00 ft	Diameter: 3.80 inches	Volume: 58.05 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.66 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4262.00 ft			Final 64000.00 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:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4235.00	
Shut In Tool	5.00			4240.00	
Hydraulic tool	5.00			4245.00	
Jars	5.00			4250.00	
Safety Joint	3.00			4253.00	
Packer	5.00			4258.00	28.00 Bottom Of Top Packer
Packer	4.00			4262.00	
Stubb	1.00			4263.00	
Perforations	3.00			4266.00	
Recorder	0.00	8017	inside	4266.00	
Recorder	0.00	8351	inside	4266.00	
Perforations	15.00			4281.00	
Bullnose	5.00			4286.00	24.00 Bottom Packers & Anchor

Total Tool Length: 52.00

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MAY 01 2008
KCC



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Wheatcroft #1-21

562 W State Rd 4
Olmitz KS 67564-8561

21 16S 27W Lane KS

ATTN: Bob Lewellyn

Job Ticket: 29527

DST#: 3

Test Start: 2008.01.12 @ 16:06:10

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 53.00 sec/qt

Water Loss: 10.37 in³

Resistivity: 0.00 ohm.m

Salinity: 2900.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API: 0 deg API

Water Salinity: 27000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
46.00	100%M	0.226
124.00	MCW 50%M 50%W	1.029

Total Length: 170.00 ft Total Volume: 1.255 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

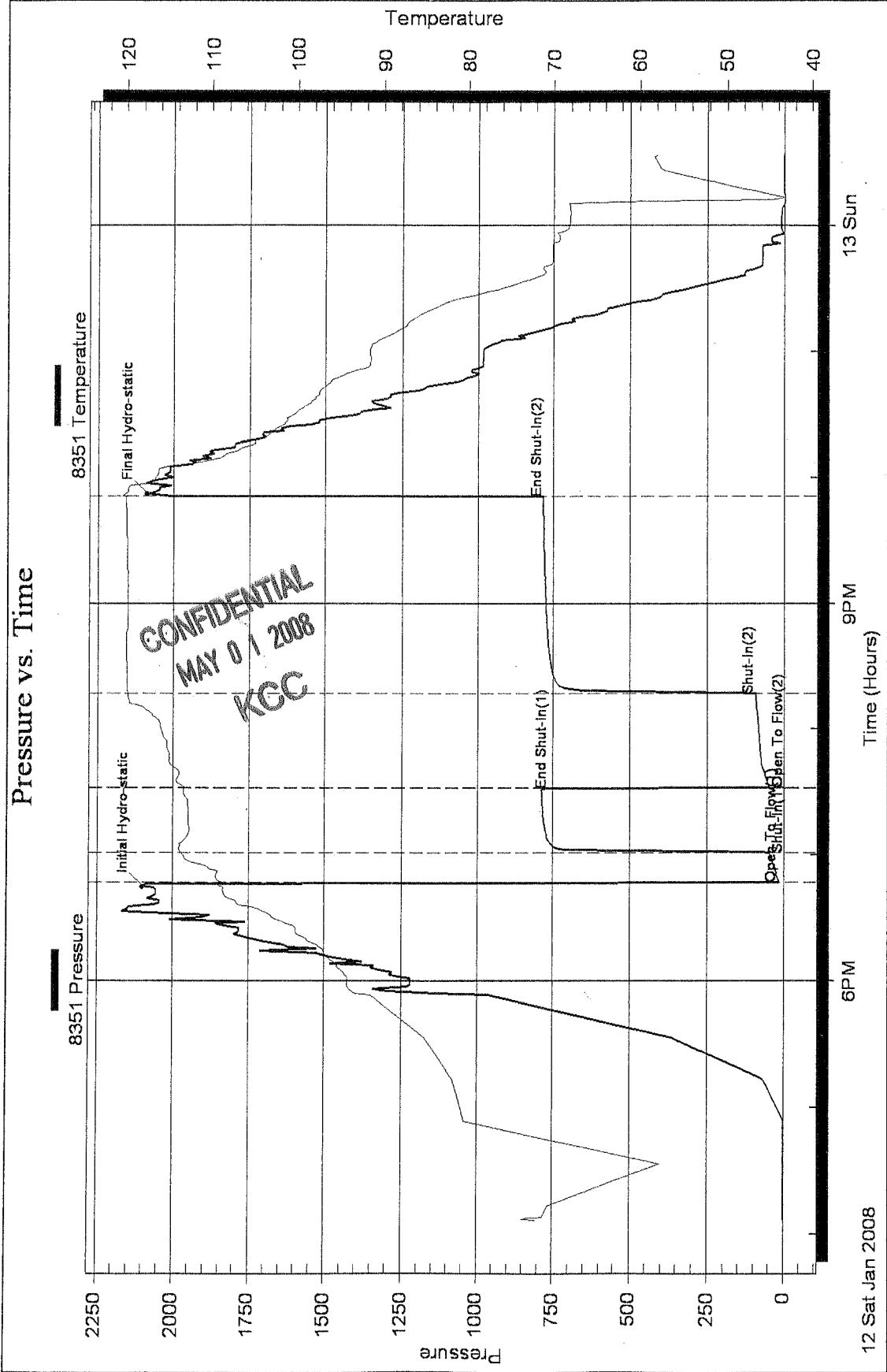
Serial #:

Laboratory Name:

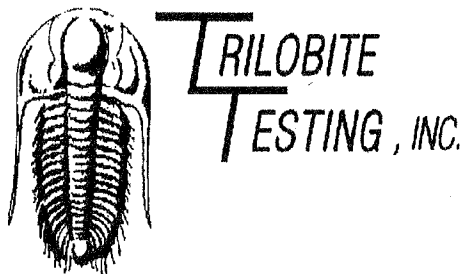
Laboratory Location:

Recovery Comments: RW: .315 @ 60 degrees F = 27000 chlorides.

Handwritten notes:
WATER SAMPLES
RIGS + P. YAM
2008



CONFIDENTIAL
 MAY 01 2008
 KGC



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz KS 67564-8561

CONFIDENTIAL
MAY 01 2008
KCC

ATTN: Bob Lewellyn

21 16S 27W Lane KS

Wheatcroft #1-21

Start Date: 2008.01.13 @ 16:49:00

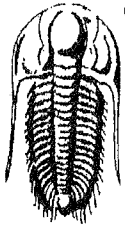
End Date: 2008.01.14 @ 00:18:45

Job Ticket #: 29428 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 W State Rd 4
Olmitz KS 67564-8561

ATTN: Bob Lewellyn

Wheatcroft #1-21

21 16S 27W Lane KS

Job Ticket: 29428

DST#: 4

Test Start: 2008.01.13 @ 16:49:00

GENERAL INFORMATION:

Formation: **Altamont**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:11:15

Time Test Ended: 00:18:45

Interval: **4330.00 ft (KB) To 4400.00 ft (KB) (TVD)**

Total Depth: 4400.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Reference Elevations: 2720.00 ft (KB)

2715.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8351

Inside

Press@RunDepth: 19.94 psig @ 4333.00 ft (KB)

Start Date: 2008.01.13

End Date:

2008.01.14

Start Time: 16:49:05

End Time:

00:18:44

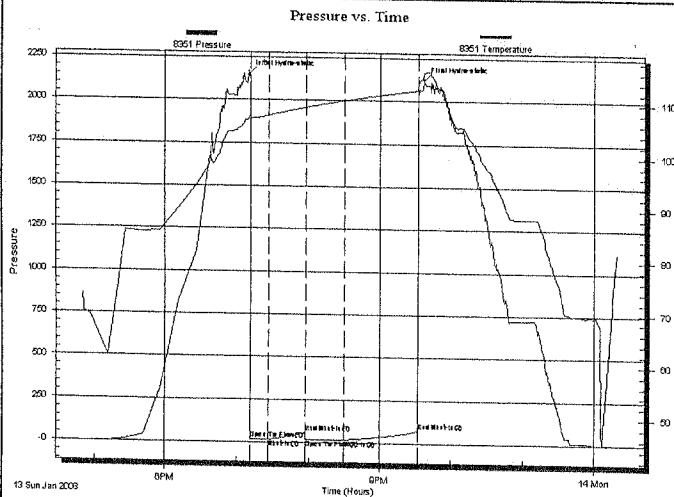
Capacity: 7000.00 psig

Last Calib.: 2008.01.14

Time On Btm: 2008.01.13 @ 19:09:30

Time Off Btm: 2008.01.13 @ 21:37:15

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



PRESSURE SUMMARY

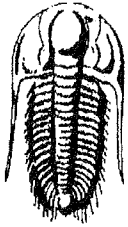
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2146.93	107.16	Initial Hydro-static
2	16.23	106.49	Open To Flow (1)
17	18.44	107.59	Shut-In(1)
48	55.15	109.21	End Shut-In(1)
48	18.62	109.20	Open To Flow (2)
81	19.94	110.52	Shut-In(2)
143	73.66	112.61	End Shut-In(2)
148	2123.37	115.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	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

562 W State Rd 4
Olmitz KS 67564-8561

ATTN: Bob Lew ellyn

Wheatcroft #1-21

21 16S 27W Lane KS

Job Ticket: 29428

DST#: 4

Test Start: 2008.01.13 @ 16:49:00

Tool Information

Drill Pipe:	Length: 4260.00 ft	Diameter: 3.80 inches	Volume: 59.76 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: 25000.00 lb
Drill Collar:	Length: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 60.06 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4330.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.00 ft			
Tool Length:	98.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

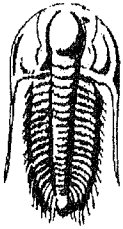
Tool Comments:

Tool Description

Length (ft) Serial No Position Depth (ft) Accum. Lengths

Change Over Sub	1.00			4303.00	
Shut In Tool	5.00			4308.00	
Hydraulic tool	5.00			4313.00	
Jars	5.00			4318.00	
Safety Joint	3.00			4321.00	
Packer	5.00			4326.00	28.00 Bottom Of Top Packer
Packer	4.00			4330.00	
Stubb	1.00			4331.00	
Perforations	2.00			4333.00	
Recorder	0.00	8017	Inside	4333.00	
Recorder	0.00	8351	Inside	4333.00	
Change Over Sub	1.00			4334.00	
Drill Pipe	60.00			4394.00	
Change Over Sub	1.00			4395.00	
Bullnose	5.00			4400.00	70.00 Bottom Packers & Anchor

Total Tool Length: 98.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Wheatcroft #1-21

562 W State Rd 4
Olmitz KS 67564-8561

21 16S 27W Lane KS

Job Ticket: 29428

DST#: 4

ATTN: Bob Lewellyn

Test Start: 2008.01.13 @ 16:49:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 51.00 sec/qt
Water Loss: 7.19 in³
Resistivity: 0.00 ohm.m
Salinity: 2300.00 ppm
Filter Cake: 1.00 inches

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

Oil API: 0 deg API
Water Salinity: 0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	100%M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0 Serial #:

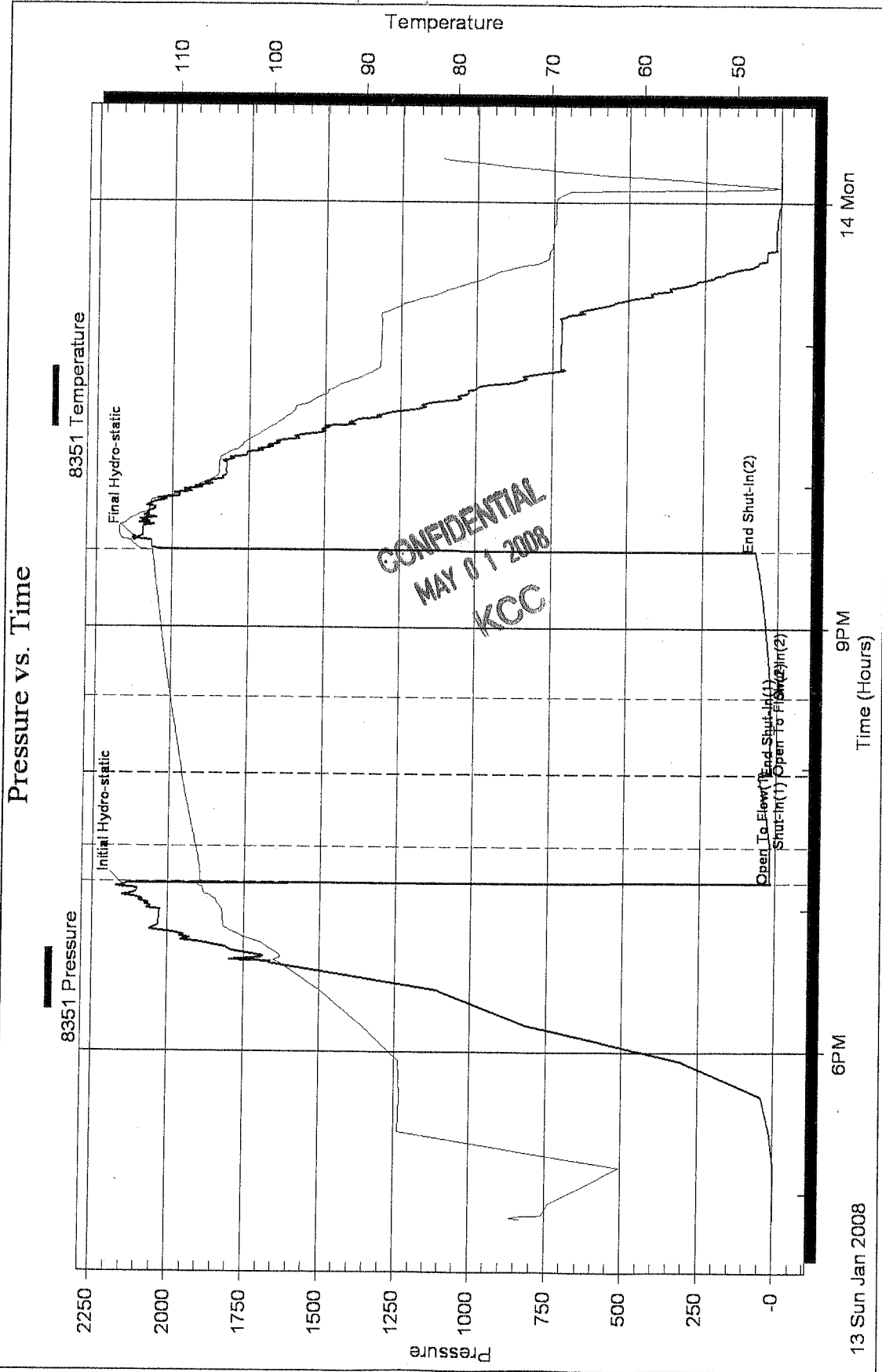
Laboratory Name:

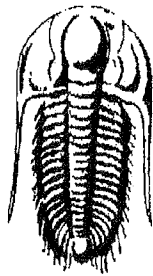
Laboratory Location:

Recovery Comments:

*COMPLETED
10:03 AM
1/13/08*

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz KS 67564-8561

ATTN: Bob Lewellyn

21 16S 27W Lane KS

Wheatcroft #1-21

Start Date: 2008.01.14 @ 19:24:00

End Date: 2008.01.15 @ 02:45:45

Job Ticket #: 29429 DST #: 5

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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 W State Rd 4
 Olmitz KS 67564-8561
 ATTN: Bob Lew ellyn

Wheatcroft #1-21
21 16S 27W Lane KS
 Job Ticket: 29429 **DST#: 5**
 Test Start: 2008.01.14 @ 19:24:00

GENERAL INFORMATION:

Formation: **Ft. Scott**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:30:30
 Time Test Ended: 02:45:45

Test Type: Conventional Bottom Hole
 Tester: Chuck Smith
 Unit No: 37

Interval: **4448.00 ft (KB) To 4530.00 ft (KB) (TVD)**
 Total Depth: 4530.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good

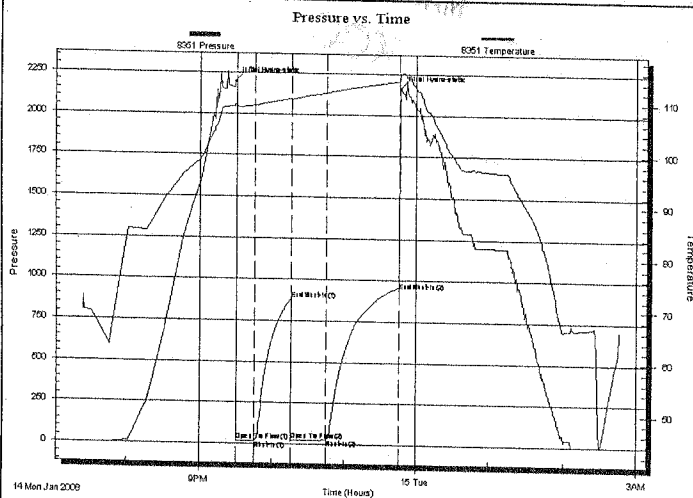
Reference Elevations: 2720.00 ft (KB)
 2715.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8351 Inside

Press@RunDepth: 27.35 psig @ 4452.00 ft (KB)
 Start Date: 2008.01.14 End Date: 2008.01.15
 Start Time: 19:24:05 End Time: 02:45:44

Capacity: 7000.00 psig
 Last Calib.: 2008.01.15
 Time On Btm: 2008.01.14 @ 21:29:00
 Time Off Btm: 2008.01.14 @ 23:47:15

TEST COMMENT: IF 1/2 " blow
 ISI No return
 FF Surface blow died @ 15 min.
 FSI No return



PRESSURE SUMMARY

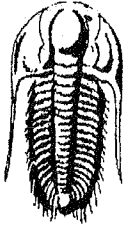
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2194.76	109.40	Initial Hydro-static
2	17.49	108.98	Open To Flow (1)
16	20.98	109.25	Shut-In(1)
47	881.00	110.64	End Shut-In(1)
47	22.36	110.25	Open To Flow (2)
77	27.35	111.81	Shut-In(2)
137	940.51	114.22	End Shut-In(2)
139	2159.00	115.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	DM 100%M	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

Wheatcroft #1-21

562 W State Rd 4
Olmritz KS 67564-8561

21 16S 27W Lane KS

Job Ticket: 29429

DST#: 5

ATTN: Bob Lewellyn

Test Start: 2008.01.14 @ 19:24:00

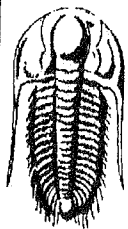
Tool Information

Drill Pipe:	Length: 4319.00 ft	Diameter: 3.80 inches	Volume: 60.58 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: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 61.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	4448.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	82.00 ft			
Tool Length:	110.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

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KCC

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

Change Over Sub	1.00			4421.00	
Shut In Tool	5.00			4426.00	
Hydraulic tool	5.00			4431.00	
Jars	5.00			4436.00	
Safety Joint	3.00			4439.00	
Packer	5.00			4444.00	28.00 Bottom Of Top Packer
Packer	4.00			4448.00	
Stubb	1.00			4449.00	
Perforations	3.00			4452.00	
Recorder	0.00	8017	Inside	4452.00	
Recorder	0.00	8351	Inside	4452.00	
Perforations	11.00			4463.00	
Change Over Sub	1.00			4464.00	
Drill Pipe	60.00			4524.00	
Change Over Sub	1.00			4525.00	
Bullnose	5.00			4530.00	82.00 Bottom Packers & Anchor
Total Tool Length:	110.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

Wheatcroft #1-21

562 W State Rd 4
Olmritz KS 67564-8561

21 16S 27W Lane KS

ATTN: Bob Lewellyn

Job Ticket: 29429

DST#: 5

Test Start: 2008.01.14 @ 19:24:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 45.00 sec/qt

Water Loss: 7.99 in³

Resistivity: 0.00 ohm.m

Salinity: 2100.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API: 0 deg API

Water Salinity: 0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	DM 100%M	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8351

Inside

Larson Engineering Inc

21 16S 27W Lane KS

DST Test Number: 5

Pressure vs. Time

