



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co**

562 W Highway 4
Olmitz KS 67564

ATTN: Tom Funk

16 18S 30W Lane

Hanel 1-16

Start Date: 2006.05.04 @ 18:30:37

End Date: 2006.05.05 @ 01:48:01

Job Ticket #: 24658 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Larson Operating Co

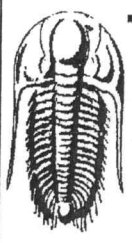
Hanel 1-16

16 18S 30W Lane

DST # 1

Lansing B

2006.05.04



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Operating Co
 562 W Highway 4
 Olmitz KS 67564
 ATTN: Tom Funk

Hanel 1-16
16 18S 30W Lane
 Job Ticket: 24658 **DST#: 1**
 Test Start: 2006.05.04 @ 18:30:37

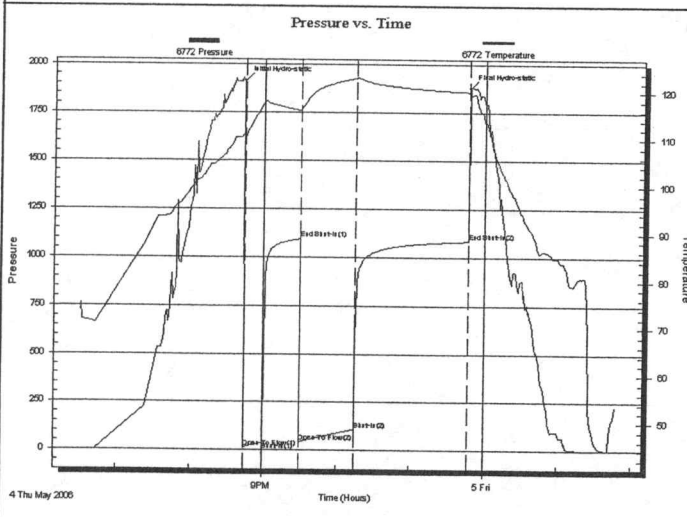
GENERAL INFORMATION:

Formation: **Lansing B**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:44:47
 Time Test Ended: 01:48:01
 Interval: **3972.00 ft (KB) To 3995.00 ft (KB) (TVD)**
 Total Depth: 3995.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole
 Tester: Brandon Turley
 Unit No: 35
 Reference Elevations: 2894.00 ft (KB)
 2884.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 6772 Inside

Press@RunDepth: 108.37 psig @ 3973.00 ft (KB)
 Start Date: 2006.05.04 End Date: 2006.05.05
 Start Time: 18:30:37 End Time: 01:48:01
 Capacity: 7000.00 psig
 Last Calib.: 2006.05.07
 Time On Btm: 2006.05.04 @ 20:44:32
 Time Off Btm: 2006.05.04 @ 23:47:16

TEST COMMENT: IF 1/4 blow built to 6 in 15"
 IS No return
 FF Surf blow BOB in 33"
 FS No return



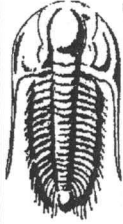
PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1915.94	111.07	Initial Hydro-static
1	13.63	110.63	Open To Flow (1)
16	40.05	117.81	Shut-In(1)
46	1092.76	116.18	End Shut-In(1)
46	42.28	116.01	Open To Flow (2)
91	108.37	122.96	Shut-In(2)
183	1083.36	120.13	End Shut-In(2)
183	1880.68	119.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	MCW 70%W 30%M	2.61
30.00	OCWM 10%O 40%W 50%M	0.42
5.00	Free Oil 100%O	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S 30W Lane

Job Ticket: 24658

DST#: 1

ATTN: Tom Funk

Test Start: 2006.05.04 @ 18:30:37

Tool Information

Drill Pipe:	Length: 3979.00 ft	Diameter: 3.80 inches	Volume: 55.81 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 55.81 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 41000.00 lb
Depth to Top Packer:	3972.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	43.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			3953.00	
Shut In Tool	5.00			3958.00	
Hydraulic tool	5.00			3963.00	
Packer	5.00			3968.00	20.00 Bottom Of Top Packer
Packer	4.00			3972.00	
Stubb	1.00			3973.00	
Recorder	0.00	6772	Inside	3973.00	
Perforations	17.00			3990.00	
Recorder	0.00	7437	Outside	3990.00	
Bullnose	5.00			3995.00	23.00 Bottom Packers & Anchor
Total Tool Length:	43.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S 30W Lane

Job Ticket: 24658

DST#: 1

ATTN: Tom Funk

Test Start: 2006.05.04 @ 18:30:37

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

49000 ppm

Viscosity: 42.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.73 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 bbf
186.00	MCW 70%W 30%M	2.609
30.00	OCWM 10%O 40%W 50%M	0.421
5.00	Free Oil 100%O	0.070

Total Length: 221.00 ft

Total Volume: 3.100 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

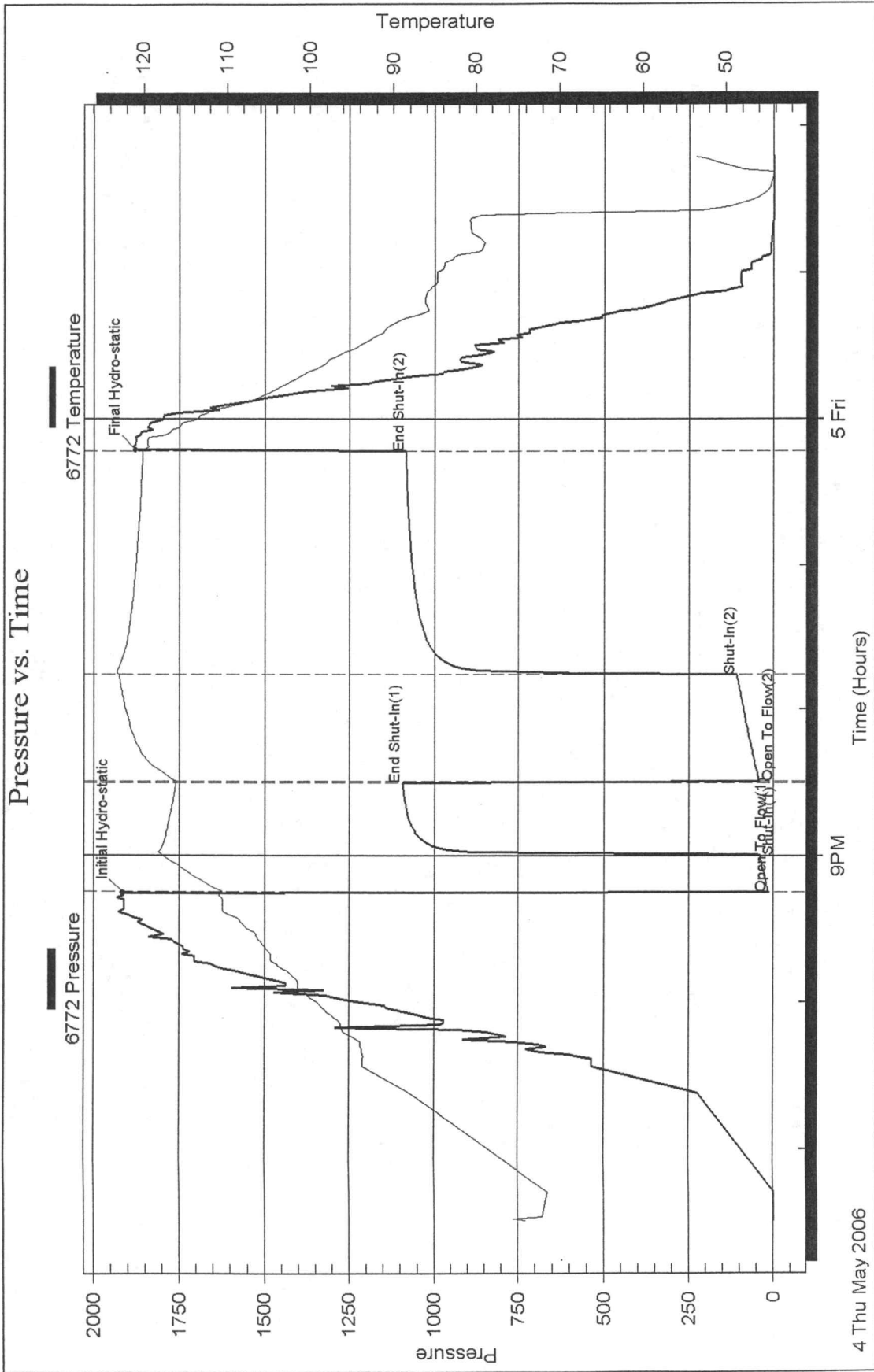
Serial #: 6772

Inside Larson Operating Co

16 18S 30W Lane

DST Test Number: 1

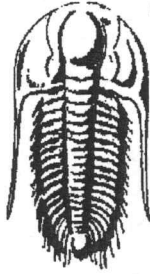
Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 24658

Printed: 2006.05.12 @ 09:58:23 Page 5



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co**

562 W Highway 4
Olmitz KS 67564

ATTN: Tom Funk

16 18S 30W Lane

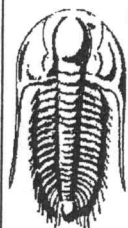
Hanel 1-16

Start Date: 2006.05.05 @ 17:37:27

End Date: 2006.05.06 @ 01:25:21

Job Ticket #: 24659 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 Operating Co

562 W Highway 4
Olmritz KS 67564

ATTN: Tom Funk

Hanel 1-16

16 18S 30W Lane

Job Ticket: 24659

DST#: 2

Test Start: 2006.05.05 @ 17:37:27

GENERAL INFORMATION:

Formation: **Lansing H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:32:22

Time Test Ended: 01:25:21

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Interval: **4123.00 ft (KB) To 4143.00 ft (KB) (TVD)**

Total Depth: 4143.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2894.00 ft (KB)

2884.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6772 Inside

Press@RunDepth: 144.88 psig @ 4124.00 ft (KB)

Start Date: 2006.05.05

End Date:

2006.05.06

Capacity: 7000.00 psig

Last Calib.: 2006.05.07

Start Time: 17:37:27

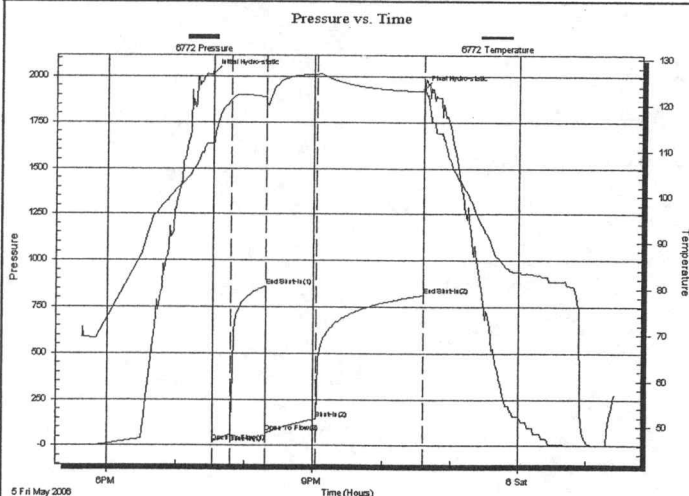
End Time:

01:25:21

Time On Btm: 2006.05.05 @ 19:32:07

Time Off Btm: 2006.05.05 @ 22:35:51

TEST COMMENT: IF 1/4 blow BOB in 10"
IS Weak surf blow
FF 1/4 blow BOB in 11"
FS Surf blow built to 1/4 died in 55"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2016.08	111.70	Initial Hydro-static
1	17.29	110.98	Open To Flow (1)
16	60.44	121.15	Shut-In(1)
46	858.70	121.86	End Shut-In(1)
47	67.32	120.72	Open To Flow (2)
91	144.88	126.74	Shut-In(2)
184	812.80	123.06	End Shut-In(2)
184	1931.18	123.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
93.00	GOSM 10%G 30%O 60%M	1.30
279.00	GO 30%G 70%O	3.91

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S 30W Lane

Job Ticket: 24659

DST#: 2

ATTN: Tom Funk

Test Start: 2006.05.05 @ 17:37:27

Tool Information

Drill Pipe:	Length: 4134.00 ft	Diameter: 3.80 inches	Volume: 57.99 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 57.99 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 41000.00 lb
Depth to Top Packer:	4123.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	40.00 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			4104.00	
Shut In Tool	5.00			4109.00	
Hydraulic tool	5.00			4114.00	
Packer	5.00			4119.00	20.00 Bottom Of Top Packer
Packer	4.00			4123.00	
Stubb	1.00			4124.00	
Recorder	0.00	6772	Inside	4124.00	
Perforations	14.00			4138.00	
Recorder	0.00	7437	Outside	4138.00	
Bullnose	5.00			4143.00	20.00 Bottom Packers & Anchor
Total Tool Length:	40.00				



TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S 30W Lane

Job Ticket: 24659

DST#: 2

ATTN: Tom Funk

Test Start: 2006.05.05 @ 17:37:27

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 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: 6.35 in³

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
93.00	GOSM 10%G 30%O 60%M	1.305
279.00	GO 30%G 70%O	3.914

Total Length: 372.00 ft Total Volume: 5.219 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6772

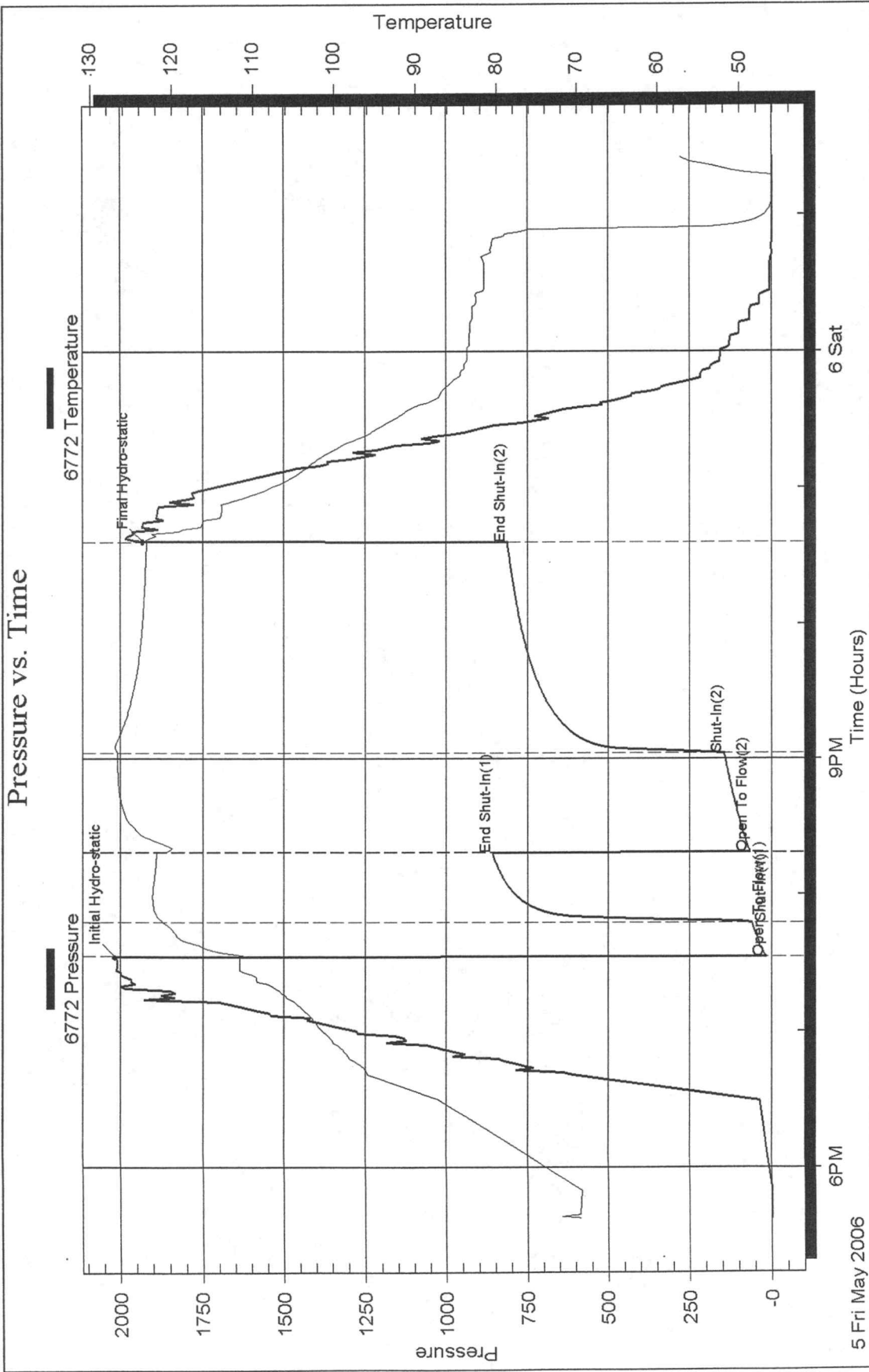
Inside

Larson Operating Co

16 18S 30W Lane

DST Test Number: 2

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co**
562 W Highway 4
Olmitz KS 67564

ATTN: Tom Funk

16 18S 30W Lane

Hanel 1-16

Start Date: 2006.05.06 @ 20:53:58

End Date: 2006.05.07 @ 03:16:22

Job Ticket #: 24660 DST #: 3

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S 30W Lane

Job Ticket: 24660

DST#: 3

ATTN: Tom Funk

Test Start: 2006.05.06 @ 20:53:58

GENERAL INFORMATION:

Formation: **LKC-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:44:08

Time Test Ended: 03:16:22

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Interval: **4263.00 ft (KB) To 4290.00 ft (KB) (TVD)**

Total Depth: 4290.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2894.00 ft (KB)

2884.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6772

Inside

Press@RunDepth: 139.41 psig @ 4264.00 ft (KB)

Start Date: 2006.05.06

End Date: 2006.05.07

Capacity: 7000.00 psig

Last Calib.: 2006.05.07

Start Time: 20:53:58

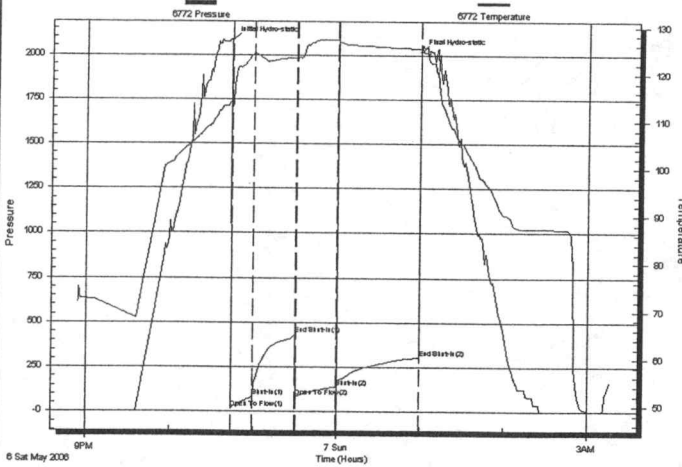
End Time: 03:16:22

Time On Btm: 2006.05.06 @ 22:43:38

Time Off Btm: 2006.05.07 @ 00:59:23

TEST COMMENT: IF 1/4 blow BOB in 10"
IS No return
FF Surf blow BOB in 28"
FS Weak surf blow died in 26"

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2080.92	114.18	Initial Hydro-static
1	20.00	113.70	Open To Flow (1)
16	80.96	124.23	Shut-In(1)
47	432.52	123.37	End Shut-In(1)
47	82.82	123.25	Open To Flow (2)
76	139.41	127.27	Shut-In(2)
136	304.38	125.49	End Shut-In(2)
136	2014.06	126.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	MCW 80%W 20%M	0.87
124.00	WCM 40%W 60%M	1.74
82.00	OCWM 10%O 10%W 80%M	1.15
30.00	Free Oil 100%O	0.42

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmritz KS 67564

16 18S 30W Lane

Job Ticket: 24660

DST#: 3

ATTN: Tom Funk

Test Start: 2006.05.06 @ 20:53:58

Tool Information

Drill Pipe:	Length: 4262.00 ft	Diameter: 3.80 inches	Volume: 59.78 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 59.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	4263.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 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			4244.00	
Shut In Tool	5.00			4249.00	
Hydraulic tool	5.00			4254.00	
Packer	5.00			4259.00	20.00 Bottom Of Top Packer
Packer	4.00			4263.00	
Stubb	1.00			4264.00	
Recorder	0.00	6772	Inside	4264.00	
Perforations	21.00			4285.00	
Recorder	0.00	7437	Outside	4285.00	
Bullnose	5.00			4290.00	27.00 Bottom Packers & Anchor
Total Tool Length:	47.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmritz KS 67564

16 18S 30W Lane

Job Ticket: 24660

DST#: 3

ATTN: Tom Funk

Test Start: 2006.05.06 @ 20:53:58

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 36 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 55000 ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.35 in ³	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 2300.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	MCW 80%W 20%M	0.870
124.00	WCM 40%W 60%M	1.739
82.00	OCWM 10%O 10%W 80%M	1.150
30.00	Free Oil 100%O	0.421

Total Length: 298.00 ft Total Volume: 4.180 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6772

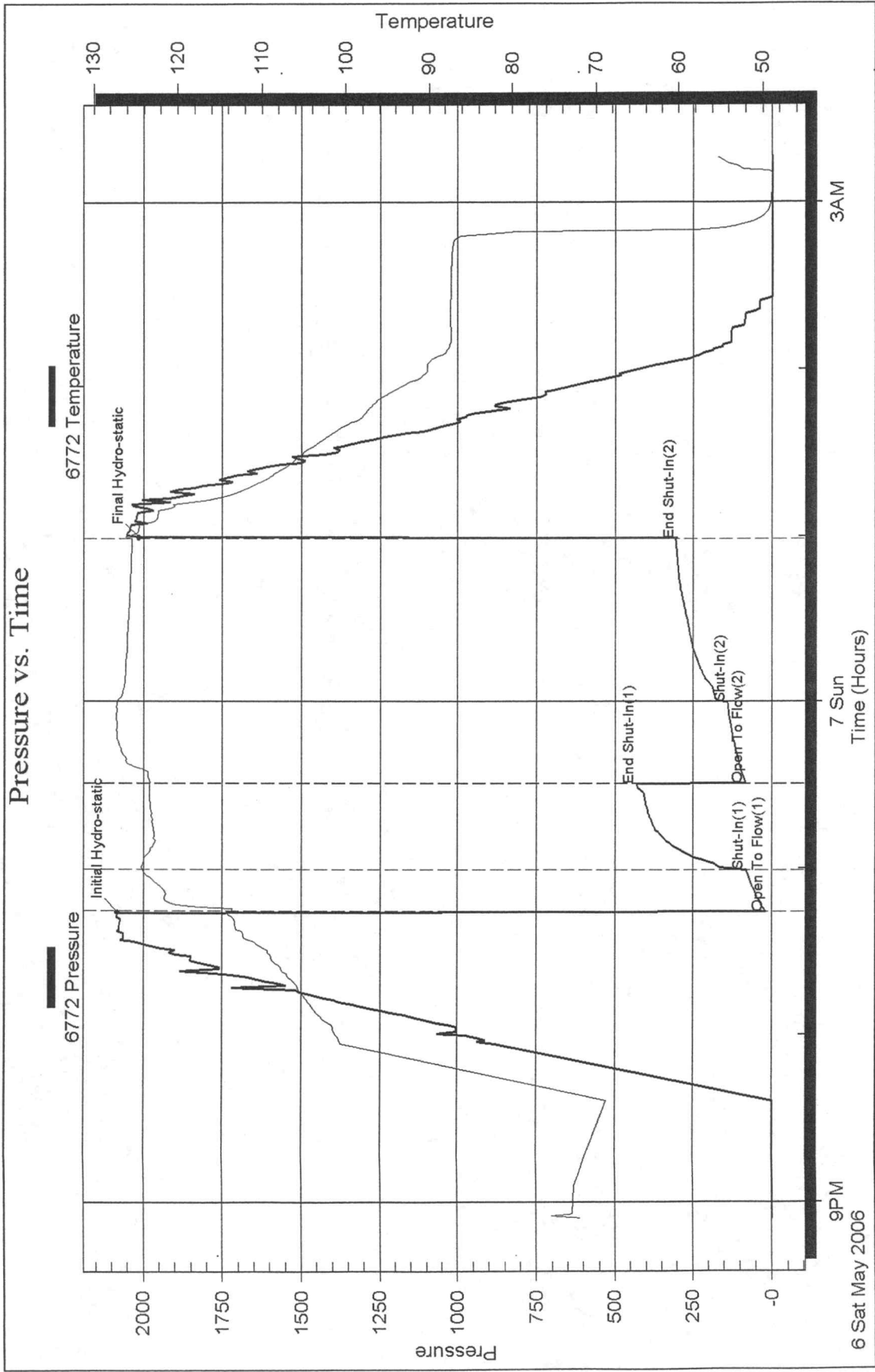
Inside

Larson Operating Co

16 18S 30W Lane

DST Test Number: 3

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co**

562 W Highway 4
Olmitz KS 67564

ATTN: Tom Funk

16 18S 30W Lane

Hanel 1-16

Start Date: 2006.05.07 @ 13:40:31

End Date: 2006.05.07 @ 20:10:55

Job Ticket #: 24661 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Larson Operating Co

Hanel 1-16

16 18S 30W Lane

DST # 4

Pleasanton-Marmaton

2006.05.07



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S 30W Lane

Job Ticket: 24661

DST#: 4

ATTN: Tom Funk

Test Start: 2006.05.07 @ 13:40:31

GENERAL INFORMATION:

Formation: **Pleasanton-Marmaton**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:48:11
 Time Test Ended: 20:10:55

Test Type: Conventional Bottom Hole
 Tester: Shane McBride
 Unit No: 25

Interval: **4299.00 ft (KB) To 4348.00 ft (KB) (TVD)**
 Total Depth: 4348.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2894.00 ft (KB)
 2884.00 ft (CF)
 KB to GR/CF: 10.00 ft

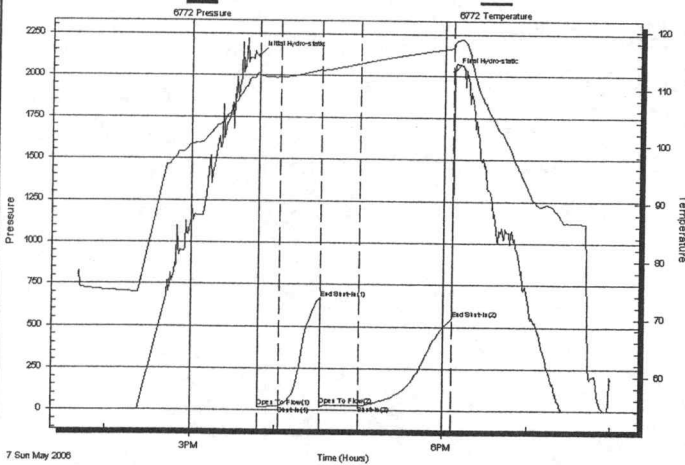
Serial #: 6772 Inside

Press@RunDepth: 31.98 psig @ 4300.00 ft (KB)
 Start Date: 2006.05.07 End Date: 2006.05.07
 Start Time: 13:40:31 End Time: 20:00:55

Capacity: 7000.00 psig
 Last Calib.: 2006.05.07
 Time On Btm: 2006.05.07 @ 15:47:56
 Time Off Btm: 2006.05.07 @ 18:06:11

TEST COMMENT: 1/2 in @ open died back to a 1/4 in
 No return
 blow built to 1/2 in died back to a 1/4 in
 No return

Pressure vs. Time



PRESSURE SUMMARY

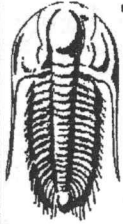
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2121.40	112.66	Initial Hydro-static
1	18.06	112.24	Open To Flow (1)
15	23.80	111.86	Shut-In(1)
45	668.04	113.25	End Shut-In(1)
45	27.64	113.12	Open To Flow (2)
72	31.98	114.36	Shut-In(2)
138	551.87	117.11	End Shut-In(2)
139	2029.96	117.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
35.00	SOCM 5% O 95% M	0.49

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S 30W Lane

Job Ticket: 24661

DST#: 4

ATTN: Tom Funk

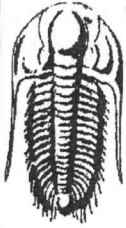
Test Start: 2006.05.07 @ 13:40:31

Tool Information

Drill Pipe:	Length: 4292.00 ft	Diameter: 3.80 inches	Volume: 60.21 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 60.21 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 43000.00 lb
Depth to Top Packer:	4299.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	49.00 ft			
Tool Length:	69.00 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			4280.00	
Shut In Tool	5.00			4285.00	
Hydraulic tool	5.00			4290.00	
Packer	5.00			4295.00	20.00 Bottom Of Top Packer
Packer	4.00			4299.00	
Stubb	1.00			4300.00	
Recorder	0.00	6772	Inside	4300.00	
Perforations	11.00			4311.00	
Change Over Sub	1.00			4312.00	
Drill Pipe	30.00			4342.00	
Change Over Sub	1.00			4343.00	
Recorder	0.00	7437	Outside	4343.00	
Bullnose	5.00			4348.00	49.00 Bottom Packers & Anchor

Total Tool Length: 69.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S 30W Lane

Job Ticket: 24661

DST#: 4

ATTN: Tom Funk

Test Start: 2006.05.07 @ 13:40:31

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 48.00 sec/qt

Water Loss: 6.74 in³

Resistivity: 0.00 ohm.m

Salinity: 2700.00 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
35.00	SOCM 5%O 95%M	0.491

Total Length: 35.00 ft

Total Volume: 0.491 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

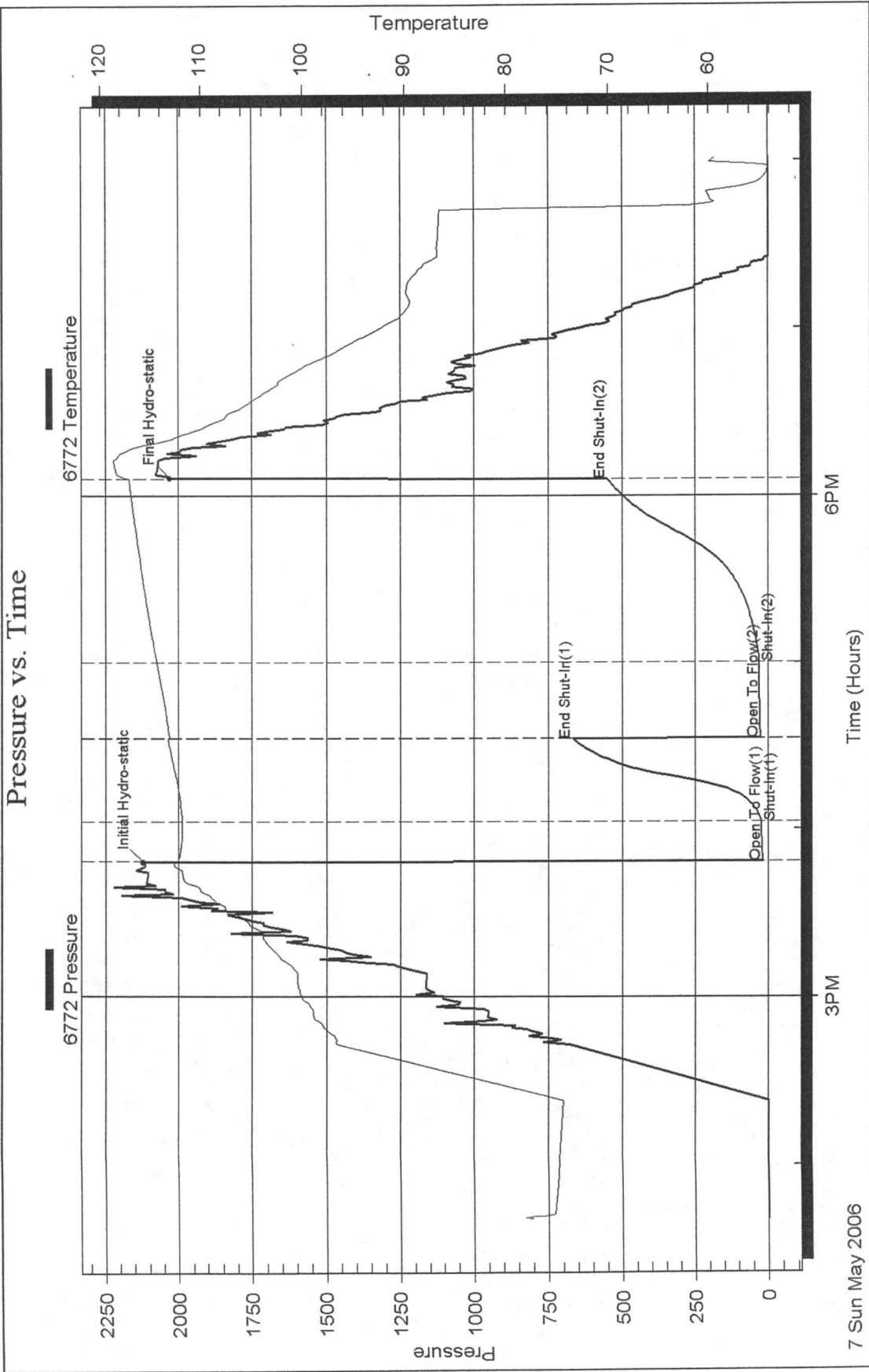
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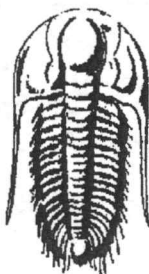
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co**

562 W Highway 4
Olmitz KS 67564

ATTN: Tom Funk

16 18S 30W Lane

Hanel 1-16

Start Date: 2006.05.08 @ 14:50:56

End Date: 2006.05.08 @ 20:05:05

Job Ticket #: 24662 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Larson Operating Co

Hanel 1-16

16 18S 30W Lane

DST # 5

Pawnee Myrick Static

2006.05.08



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Operating Co
562 W Highway 4
Olmits KS 67564
ATTN: Tom Funk

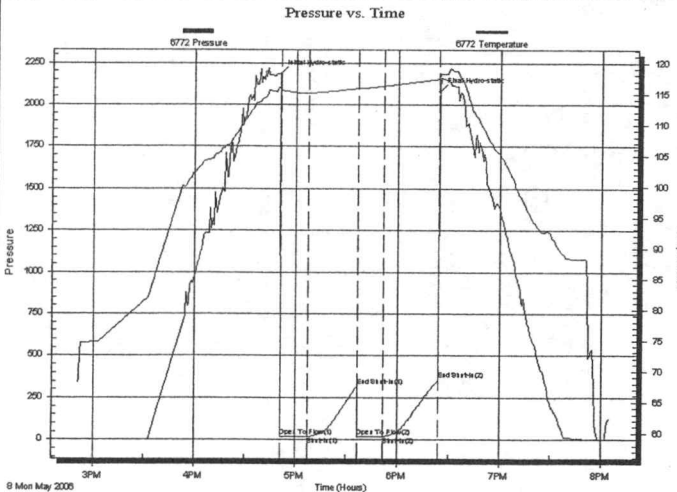
Hanel 1-16
16 18S 30W Lane
Job Ticket: 24662 **DST#: 5**
Test Start: 2006.05.08 @ 14:50:56

GENERAL INFORMATION:

Formation: **Pawnee Myrick Statio**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:51:06
Time Test Ended: 20:05:05
Test Type: Conventional Bottom Hole
Tester: Shane McBride
Unit No: 25
Interval: **4412.00 ft (KB) To 4491.00 ft (KB) (TVD)**
Reference Elevations: 2894.00 ft (KB)
Total Depth: 4491.00 ft (KB) (TVD) 2884.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 6772 Inside
Press@RunDepth: 19.26 psig @ 4413.00 ft (KB) Capacity: 7000.00 psig
Start Date: 2006.05.08 End Date: 2006.05.08 Last Calib.: 2006.05.08
Start Time: 14:50:56 End Time: 20:05:05 Time On Btm: 2006.05.08 @ 16:50:51
Time Off Btm: 2006.05.08 @ 18:24:21

TEST COMMENT: Weak blow died in 5"
No return
No blow
No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2183.83	116.08	Initial Hydro-static
1	17.72	115.36	Open To Flow (1)
17	18.38	115.14	Shut-In(1)
46	317.18	115.89	End Shut-In(1)
46	18.50	115.79	Open To Flow (2)
61	19.26	116.24	Shut-In(2)
94	358.25	117.42	End Shut-In(2)
94	2079.78	118.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	M	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S-30W Lane

Job Ticket: 24662

DST#: 5

ATTN: Tom Funk

Test Start: 2006.05.08 @ 14:50:56

Tool Information

Drill Pipe:	Length: 4418.00 ft	Diameter: 3.80 inches	Volume: 61.97 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 61.97 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 43000.00 lb
Depth to Top Packer:	4412.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	79.00 ft			
Tool Length:	99.00 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			4393.00	
Shut In Tool	5.00			4398.00	
Hydraulic tool	5.00			4403.00	
Packer	5.00			4408.00	20.00 Bottom Of Top Packer
Packer	4.00			4412.00	
Stubb	1.00			4413.00	
Recorder	0.00	6772	Inside	4413.00	
Perforations	9.00			4422.00	
Change Over Sub	1.00			4423.00	
Drill Pipe	62.00			4485.00	
Change Over Sub	1.00			4486.00	
Recorder	0.00	7437	Outside	4486.00	
Bullnose	5.00			4491.00	79.00 Bottom Packers & Anchor

Total Tool Length: 99.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S 30W Lane

Job Ticket: 24662

DST#: 5

ATTN: Tom Funk

Test Start: 2006.05.08 @ 14:50:56

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: 6.78 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
5.00	M	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 6772

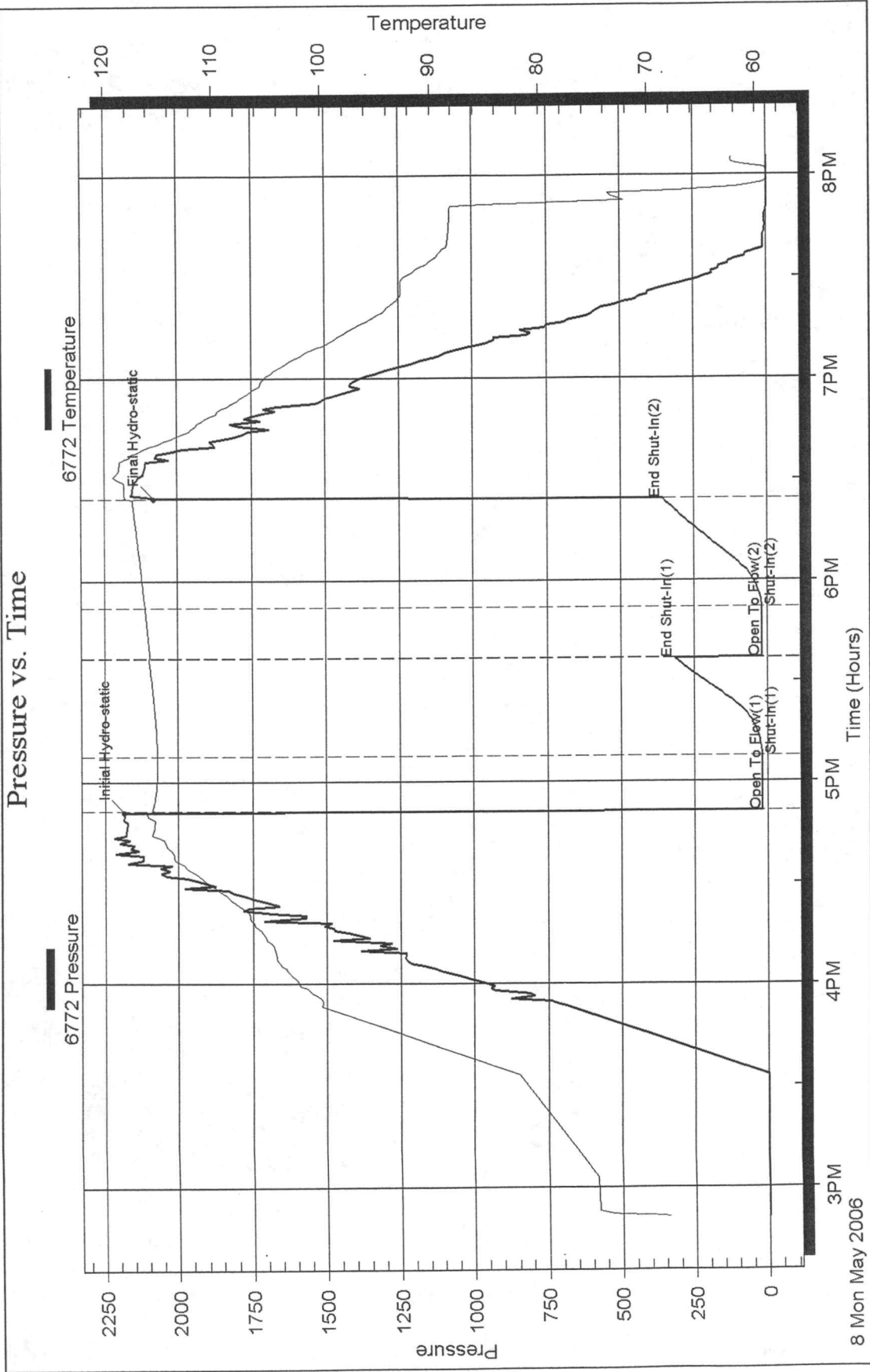
Inside

Larson Operating Co

16 18S 30W Lane

DST Test Number: 5

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co**

562 W Highway 4
Olmitz KS 67564

ATTN: Tom Funk

16 18S 30W Lane

Hanel 1-16

Start Date: 2006.05.09 @ 09:40:46

End Date: 2006.05.09 @ 17:35:55

Job Ticket #: 24663 DST #: 6

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

Larson Operating Co

Hanel 1-16

16 18S 30W Lane

DST # 6

Johnson

2006.05.09



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S 30W Lane

Job Ticket: 24663

DST#: 6

ATTN: Tom Funk

Test Start: 2006.05.09 @ 09:40:46

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:54:41

Time Test Ended: 17:35:55

Test Type: Conventional Bottom Hole

Tester: Shane McBride

Unit No: 25

Interval: **4497.00 ft (KB) To 4560.00 ft (KB) (TVD)**

Total Depth: 4560.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2894.00 ft (KB)

2884.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6772 Inside

Press@RunDepth: 65.33 psig @ 4498.00 ft (KB)

Start Date: 2006.05.09

End Date: 2006.05.09

Capacity: 7000.00 psig

Start Time: 09:40:46

End Time: 17:12:55

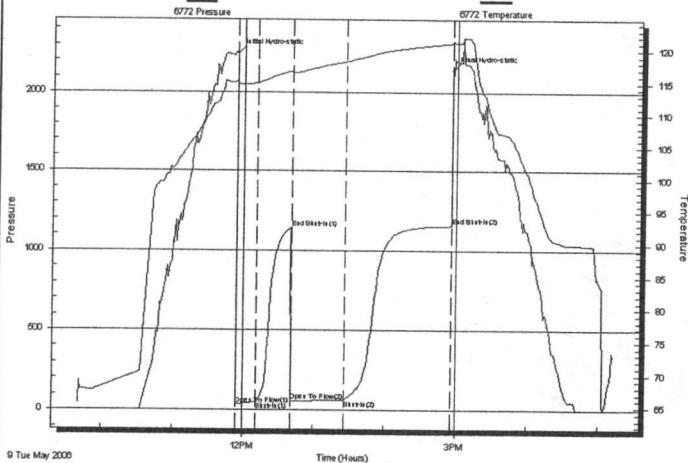
Last Calib.: 2006.05.09

Time On Btm: 2006.05.09 @ 11:54:26

Time Off Btm: 2006.05.09 @ 14:56:11

TEST COMMENT: 1/2 in @ open built to 1 1/2 in
No return
Surf blow in 7" built to 1 1/4 in
No return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2245.86	115.27	Initial Hydro-static
1	34.66	114.59	Open To Flow (1)
17	50.92	115.00	Shut-In(1)
47	1139.94	116.80	End Shut-In(1)
47	55.64	116.60	Open To Flow (2)
92	65.33	118.29	Shut-In(2)
182	1153.56	121.15	End Shut-In(2)
182	2138.16	121.48	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
85.00	OCM 25% O 75% M	1.19

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S 30W Lane

Job Ticket: 24663

DST#: 6

ATTN: Tom Funk

Test Start: 2006.05.09 @ 09:40:46

Tool Information

Drill Pipe:	Length: 4510.00 ft	Diameter: 3.80 inches	Volume: 63.26 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 63.26 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	4497.00 ft			Final 47000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	63.00 ft			
Tool Length:	83.00 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			4478.00	
Shut In Tool	5.00			4483.00	
Hydraulic tool	5.00			4488.00	
Packer	5.00			4493.00	20.00 Bottom Of Top Packer
Packer	4.00			4497.00	
Stubb	1.00			4498.00	
Recorder	0.00	6772	Inside	4498.00	
Perforations	24.00			4522.00	
Change Over Sub	1.00			4523.00	
Drill Pipe	31.00			4554.00	
Change Over Sub	1.00			4555.00	
Recorder	0.00	7437	Outside	4555.00	
Bullnose	5.00			4560.00	63.00 Bottom Packers & Anchor

Total Tool Length: 83.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmitz KS 67564

16 18S 30W Lane

Job Ticket: 24663

DST#: 6

ATTN: Tom Funk

Test Start: 2006.05.09 @ 09:40:46

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: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.39 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 2100.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

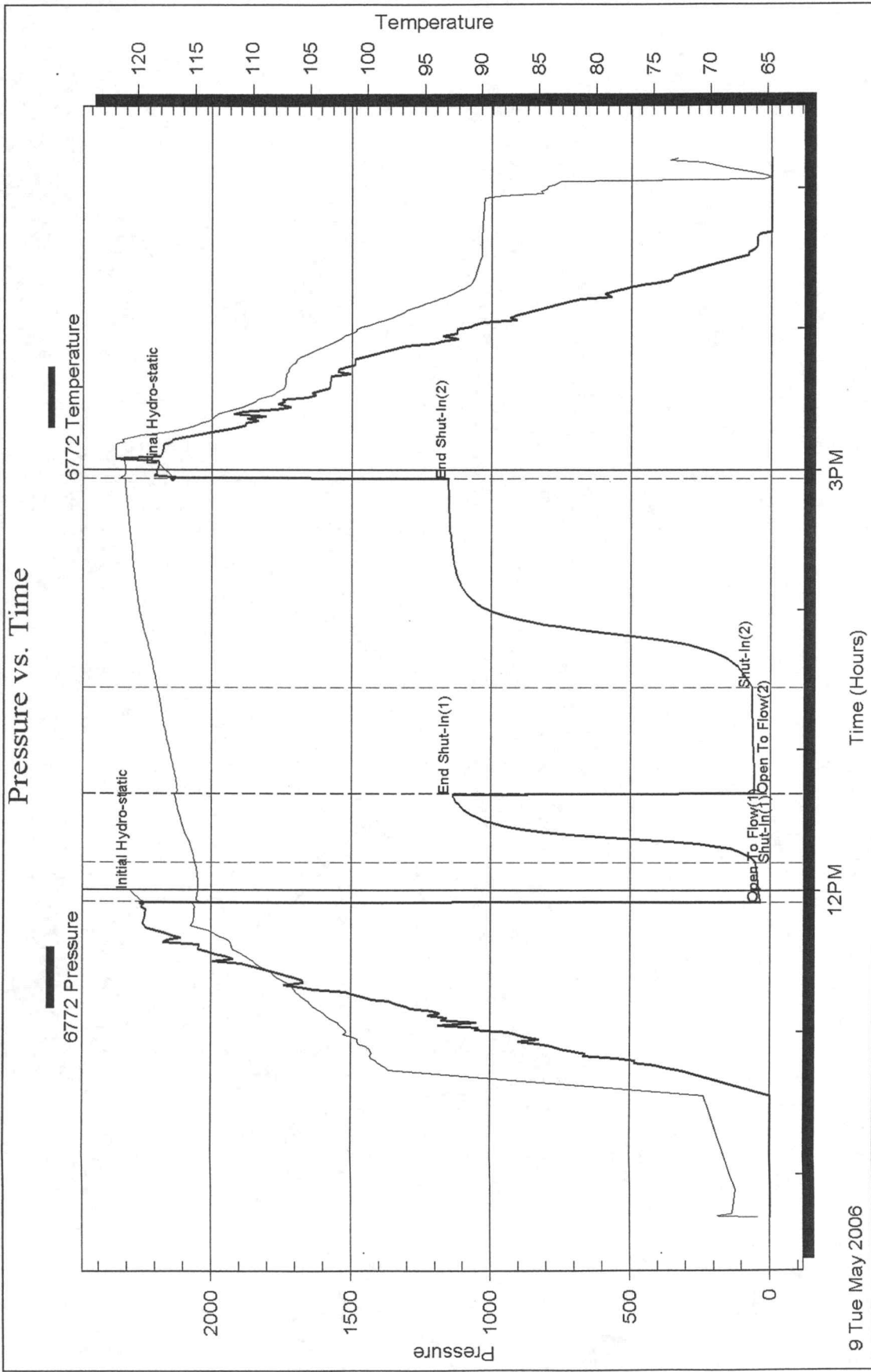
Length ft	Description	Volume bbl
85.00	OCM 25%O 75%M	1.192

Total Length: 85.00 ft Total Volume: 1.192 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

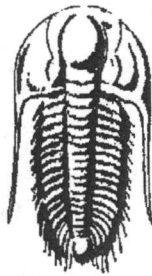


9 Tue May 2006

12PM

3PM

Time (Hours)



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co**

562 W Highway 4
Olmitz KS 67564

ATTN: Tom Funk

16 18S 30W Lane

Hanel 1-16

Start Date: 2006.05.10 @ 11:30:19

End Date: 2006.05.10 @ 21:20:29

Job Ticket #: 23076 DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Larson Operating Co

Hanel 1-16

16 18S 30W Lane

DST # 7

Altamont

2006.05.10



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Operating Co
 562 W Highway 4
 Olmitz KS 67564
 ATTN: Tom Funk

Hanel 1-16
16 18S 30W Lane
 Job Ticket: 23076 **DST#: 7**
 Test Start: 2006.05.10 @ 11:30:19

GENERAL INFORMATION:

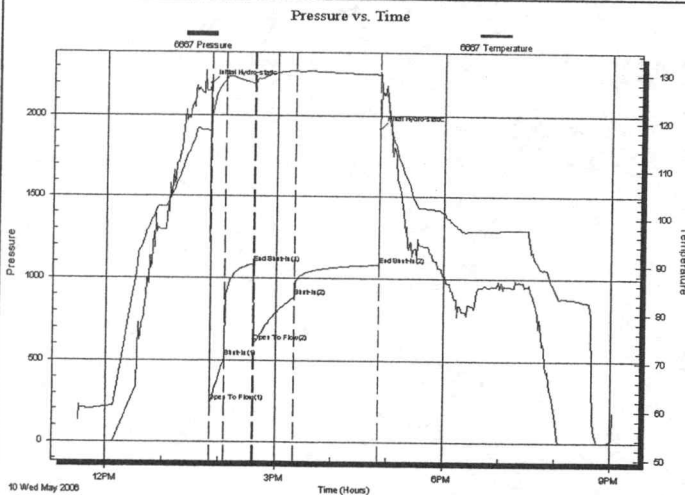
Formation: **Altamont**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:50:59
 Time Test Ended: 21:20:29
 Interval: **4366.00 ft (KB) To 4390.00 ft (KB) (TVD)**
 Total Depth: 4619.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle
 Tester: Shane McBride
 Unit No: 25
 Reference Elevations: 2894.00 ft (KB)
 2884.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 6667

Inside

Press@RunDepth: 887.34 psig @ 4367.00 ft (KB)
 Start Date: 2006.05.10 End Date: 2006.05.10 Capacity: 7000.00 psig
 Start Time: 11:30:19 End Time: 21:02:29 Last Calib.: 2006.05.10
 Time On Btm: 2006.05.10 @ 13:49:44
 Time Off Btm: 2006.05.10 @ 16:50:43

TEST COMMENT: BOB in 1 1/2 in
 6 in return blow
 BOB in 1"
 1/2 in return blow died in 40"



PRESSURE SUMMARY

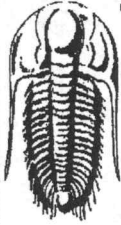
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2195.98	118.35	Initial Hydro-static
2	245.43	121.10	Open To Flow (1)
17	513.50	128.72	Shut-In (1)
47	1086.95	128.12	End Shut-In (1)
48	608.97	127.41	Open To Flow (2)
91	887.34	130.77	Shut-In (2)
181	1083.02	130.03	End Shut-In (2)
181	1918.97	130.48	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GOCM 20%G 30%O 50%M	0.59
1574.00	Reversed out CGO 20%G 80%O	21.53
682.00	CGO 20%G 80%O	9.57

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmritz KS 67564

16 18S 30W Lane

Job Ticket: 23076

DST#:7

ATTN: Tom Funk

Test Start: 2006.05.10 @ 11:30:19

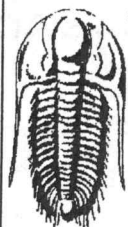
Tool Information

Drill Pipe:	Length: 4174.00 ft	Diameter: 3.80 inches	Volume: 58.55 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 59.44 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4366.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	4390.00 ft			
Interval between Packers:	24.00 ft			
Tool Length:	274.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4347.00	
Shut In Tool	5.00			4352.00	
Hydraulic tool	5.00			4357.00	
Packer	5.00		Fluid	4362.00	20.00 Bottom Of Top Packer
Packer	4.00			4366.00	
Stubb	1.00			4367.00	
Recorder	0.00	6667	Inside	4367.00	
Perforations	19.00			4386.00	
Recorder	0.00	11057		4386.00	
Blank Off Sub	1.00			4387.00	
top of packer	3.00			4390.00	24.00 Tool Interval
Packer	1.00			4391.00	
Stubb	1.00			4392.00	
Perforations	4.00			4396.00	
Change Over Sub	1.00			4397.00	
Drill Pipe	217.00			4614.00	
Change Over Sub	1.00			4615.00	
Recorder	0.00	11058	Inside	4615.00	
Bullnose	5.00			4620.00	230.00 Bottom Packers & Anchor

Total Tool Length: 274.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Operating Co

Hanel 1-16

562 W Highway 4
Olmritz KS 67564

16 18S 30W Lane

Job Ticket: 23076

DST#: 7

ATTN: Tom Funk

Test Start: 2006.05.10 @ 11:30:19

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GOCM 20%G 30%O 50%M	0.590
1574.00	Reversed out CGO 20%G 80%O	21.533
682.00	CGO 20%G 80%O	9.567

Total Length: 2376.00 ft

Total Volume:

31.690 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 660' GIP

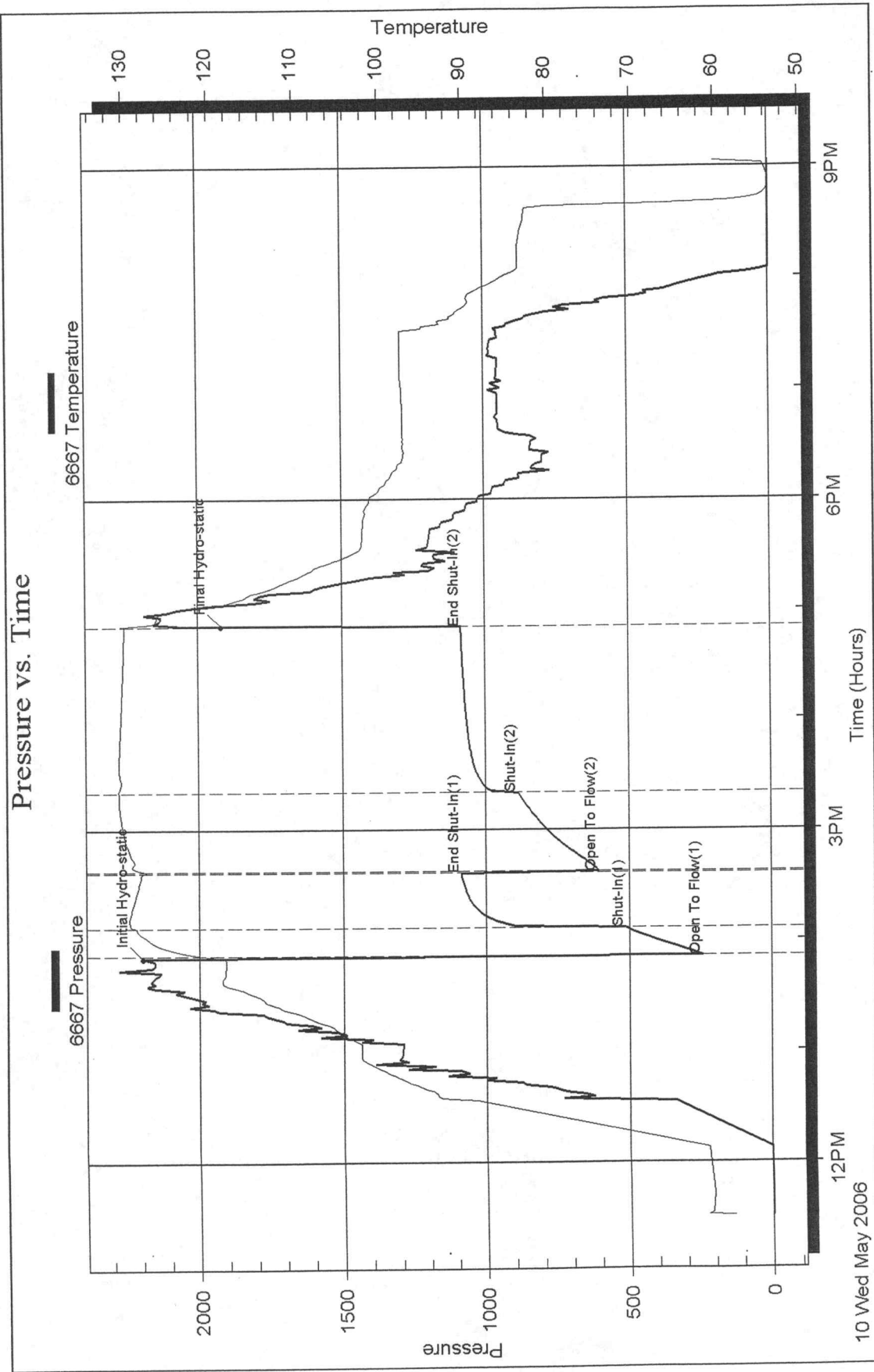
Serial #: 6667

Inside

Larson Operating Co

16 18S30W Lane

DST Test Number: 7



10 Wed May 2006

CHART PAGE

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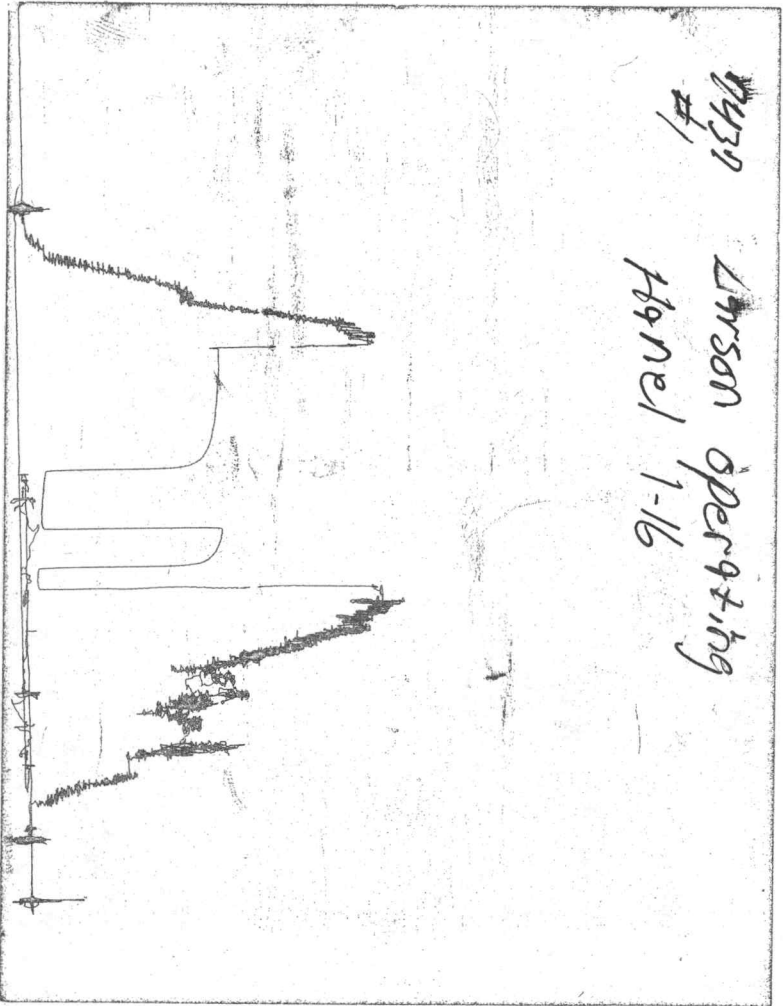


CHART PAGE

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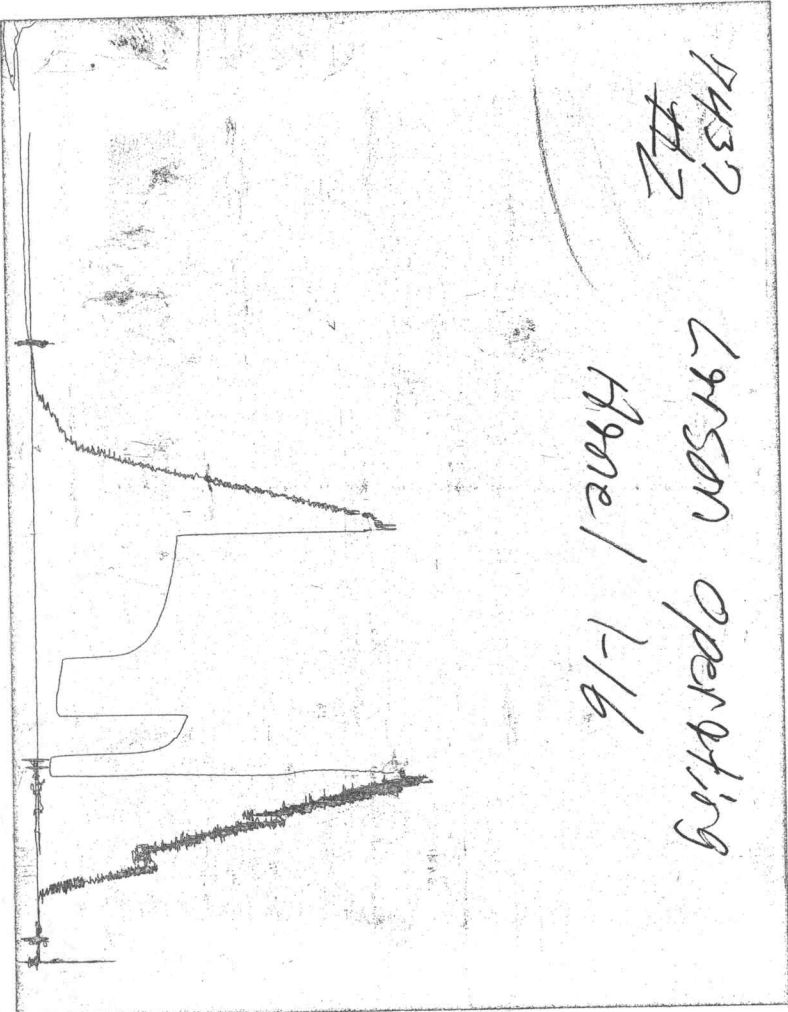


CHART PAGE

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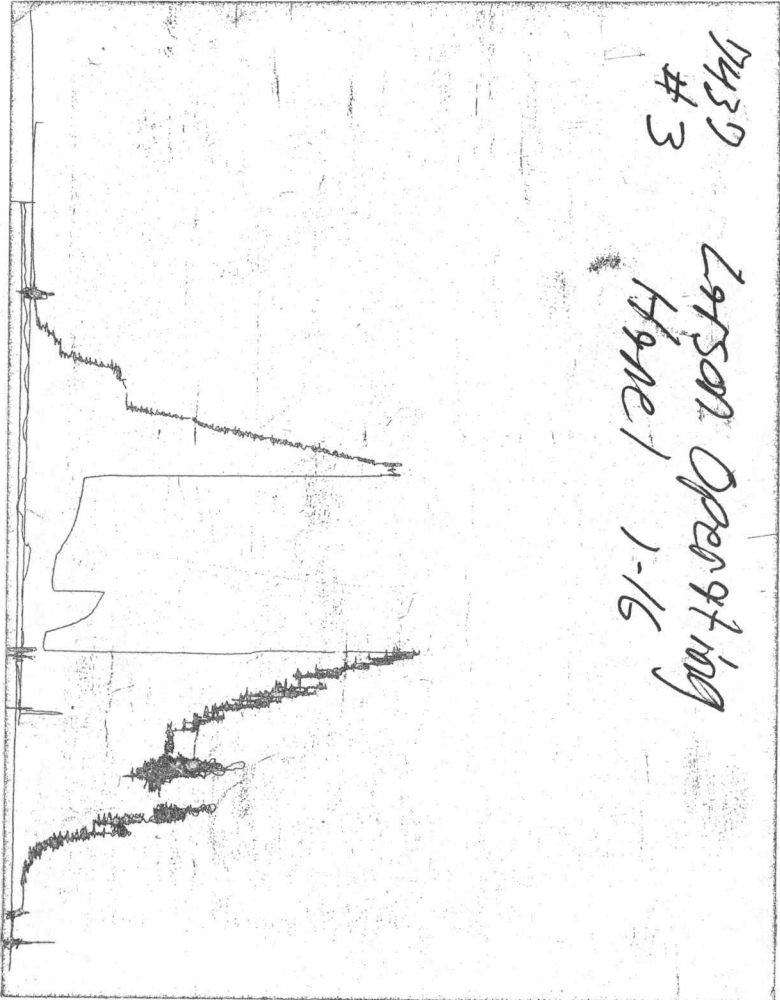


CHART PAGE

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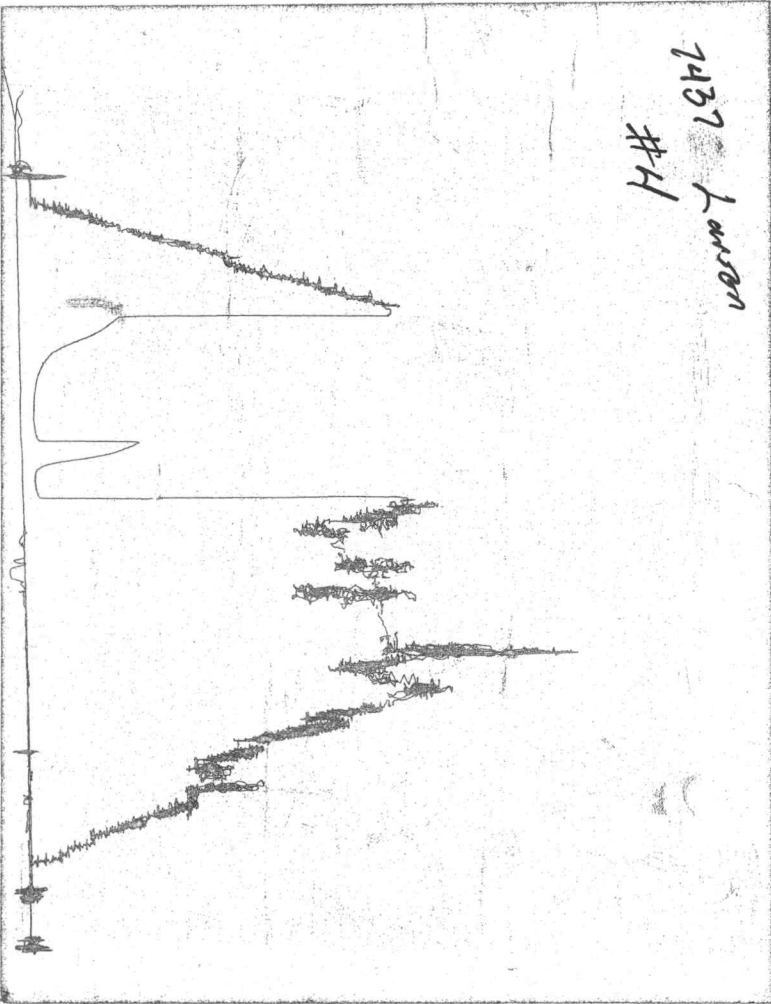


CHART PAGE

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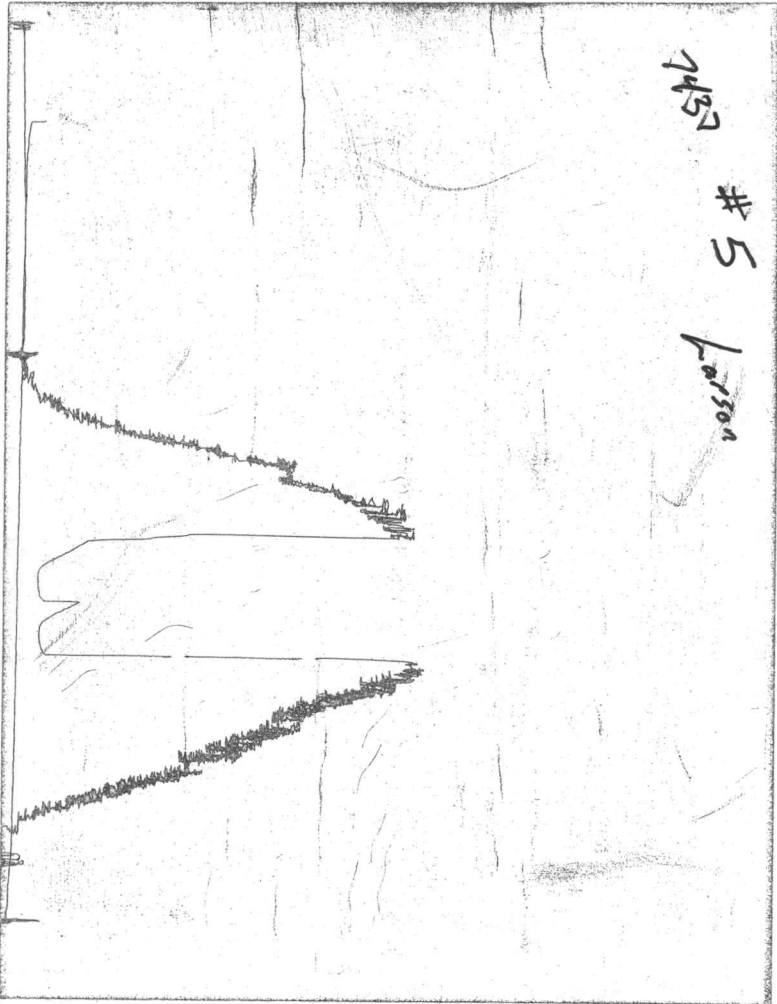


CHART PAGE

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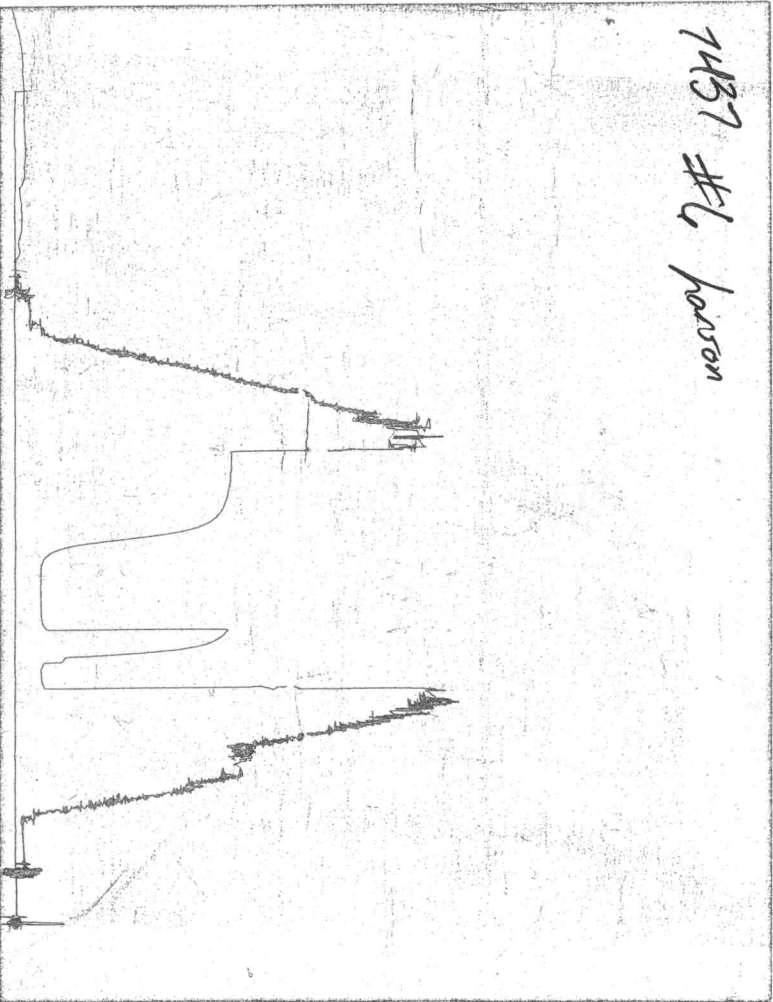


CHART PAGE

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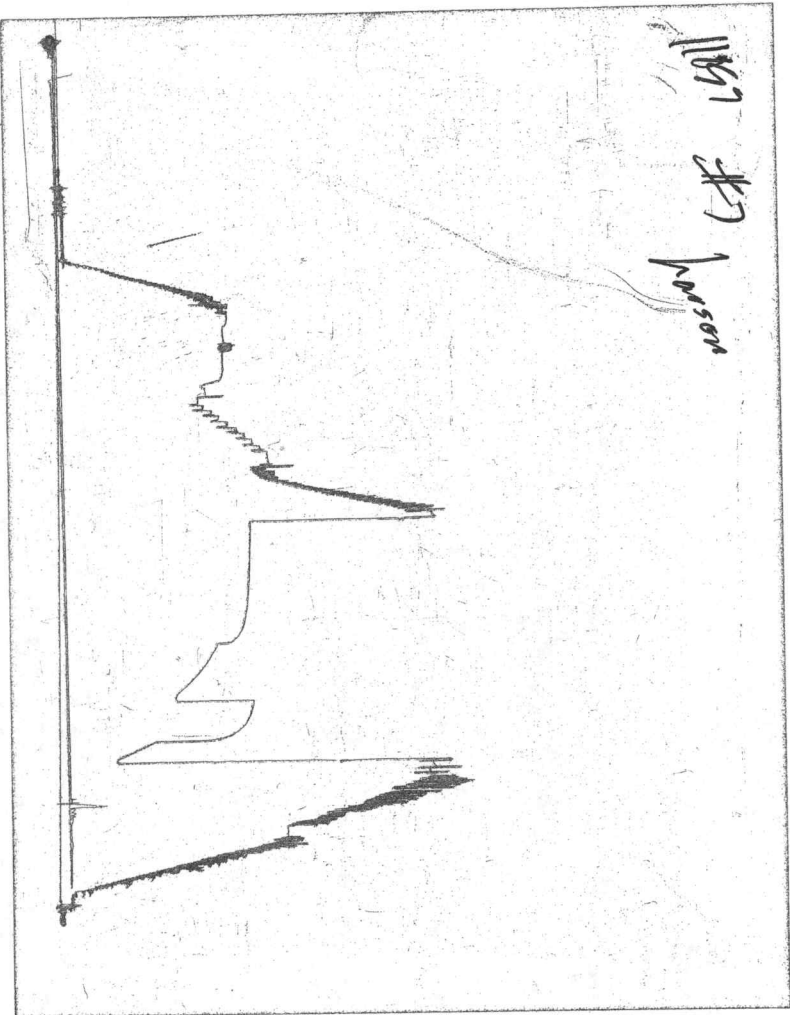


CHART PAGE

This is a photocopy of the actual AK-1 recorder chart.

