

Bid DST #5



DRILL STEM TEST REPORT

Prepared For: **Midco Exploration, Inc.**

414 Plaza Dr., Suite 204
Westmont, IL 60559

ATTN: Alan Downing

19-33s-25w Clark KS

Theis #2-19

Start Date: 2001.09.14 @ 02:09:09

End Date: 2001.09.14 @ 12:44:24

Job Ticket #: 14992 DST #: 1

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

Midco Exploration, Inc.

Theis #2-19

19-33s-25w Clark KS

DST # 1

Pawnee

2001.09.14



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Midco Exploration, Inc.
414 Plaza Dr., Suite 204
Westmont, IL 60559
ATTN: Alan Downing

Theis #2-19
19-33s-25w Clark KS
Job Ticket: 14992 **DST#: 1**
Test Start: 2001.09.14 @ 02:09:09

GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:06:09
Time Test Ended: 12:44:24
Test Type: Conventional Bottom Hole
Tester: Darren L. Amerine
Unit No: 19
Interval: **5112.00 ft (KB) To 5159.00 ft (KB) (TVD)**
Total Depth: 5159.00 ft (KB) (TVD)
Reference Elevations: 2132.00 ft (KB)
2121.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair
KB to GR/CF: 11.00 ft

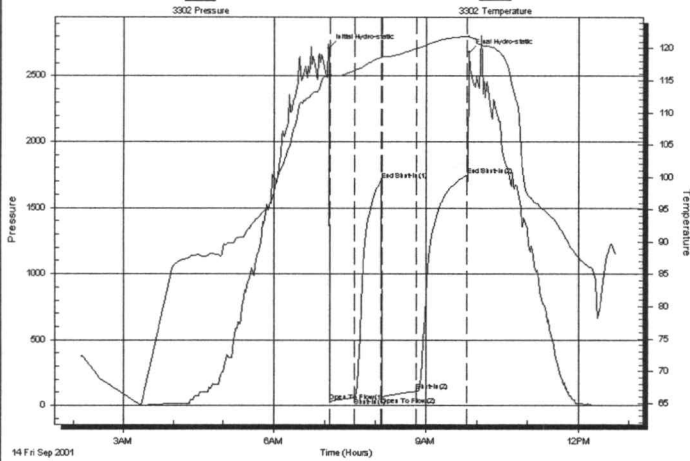
Serial #: 3302

Inside

Press@RunDepth: 108.27 psig @ 5121.00 ft (KB) Capacity: 7000.00 psig
Start Date: 2001.09.14 End Date: 2001.09.14 Last Calib.: 2001.09.14
Start Time: 02:09:11 End Time: 12:44:24 Time On Btm: 2001.09.14 @ 07:04:54
Time Off Btm: 2001.09.14 @ 09:50:24

TEST COMMENT: IF: Weak blow built to 3-1/2" in H2O bucket.
IS: Bled down for 3 mins. no blow back.
FF: Weak blow built to 2" in H2O bucket.
FS: Bled down for 2 mins. no blow back.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2712.81	115.87	Initial Hydro-static
2	31.51	114.42	Open To Flow (1)
30	61.81	116.56	Shut-In(1)
62	1707.91	118.64	End Shut-In(1)
63	69.74	118.79	Open To Flow (2)
103	108.27	119.97	Shut-In(2)
164	1746.32	121.88	End Shut-In(2)
166	2679.47	122.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	110 - Gas and Oil and Water cut Mud	0.89
60.00	01 - Gas	0.30

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Midco Exploration, Inc.

Theis #2-19

414 Plaza Dr., Suite 204
Westmont, IL 60559

19-33s-25w Clark KS

Job Ticket: 14992

DST#: 1

ATTN: Alan Downing

Test Start: 2001.09.14 @ 02:09:09

Tool Information

Drill Pipe:	Length: 4821.00 ft	Diameter: 3.80 inches	Volume: 67.63 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 290.00 ft	Diameter: 2.25 inches	Volume: 1.43 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 69.06 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	5112.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	75.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			5085.00	
S.I. Tool	5.00			5090.00	
HMV	5.00			5095.00	
Jars	5.00			5100.00	
Safety Joint	2.00			5102.00	
Packer	5.00			5107.00	28.00 Bottom Of Top Packer
Packer	5.00			5112.00	
Stubb	1.00			5113.00	
Anchor	8.00			5121.00	
Recorder	0.00	3302	Inside	5121.00	
Blank Spacing	30.00			5151.00	
Anchor	5.00			5156.00	
Recorder	0.00	13769	Outside	5156.00	
Bullnose	3.00			5159.00	47.00 Bottom Packers & Anchor

Total Tool Length: 75.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Midco Exploration, Inc.

Theis #2-19

414 Plaza Dr., Suite 204
Westmont, IL 60559

19-33s-25w Clark KS

Job Ticket: 14992

DST#: 1

ATTN: Alan Downing

Test Start: 2001.09.14 @ 02:09:09

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl		
Water Loss: 12.18 in ³	Gas Cushion Type:		
Resistivity: 0.90 ohm.m	Gas Cushion Pressure: psig		
Salinity: 8900.00 ppm			
Filter Cake: 0.32 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	110 - Gas and Oil and Water cut Mud	0.885
60.00	01 - Gas	0.295

Total Length: 240.00 ft Total Volume: 1.180 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

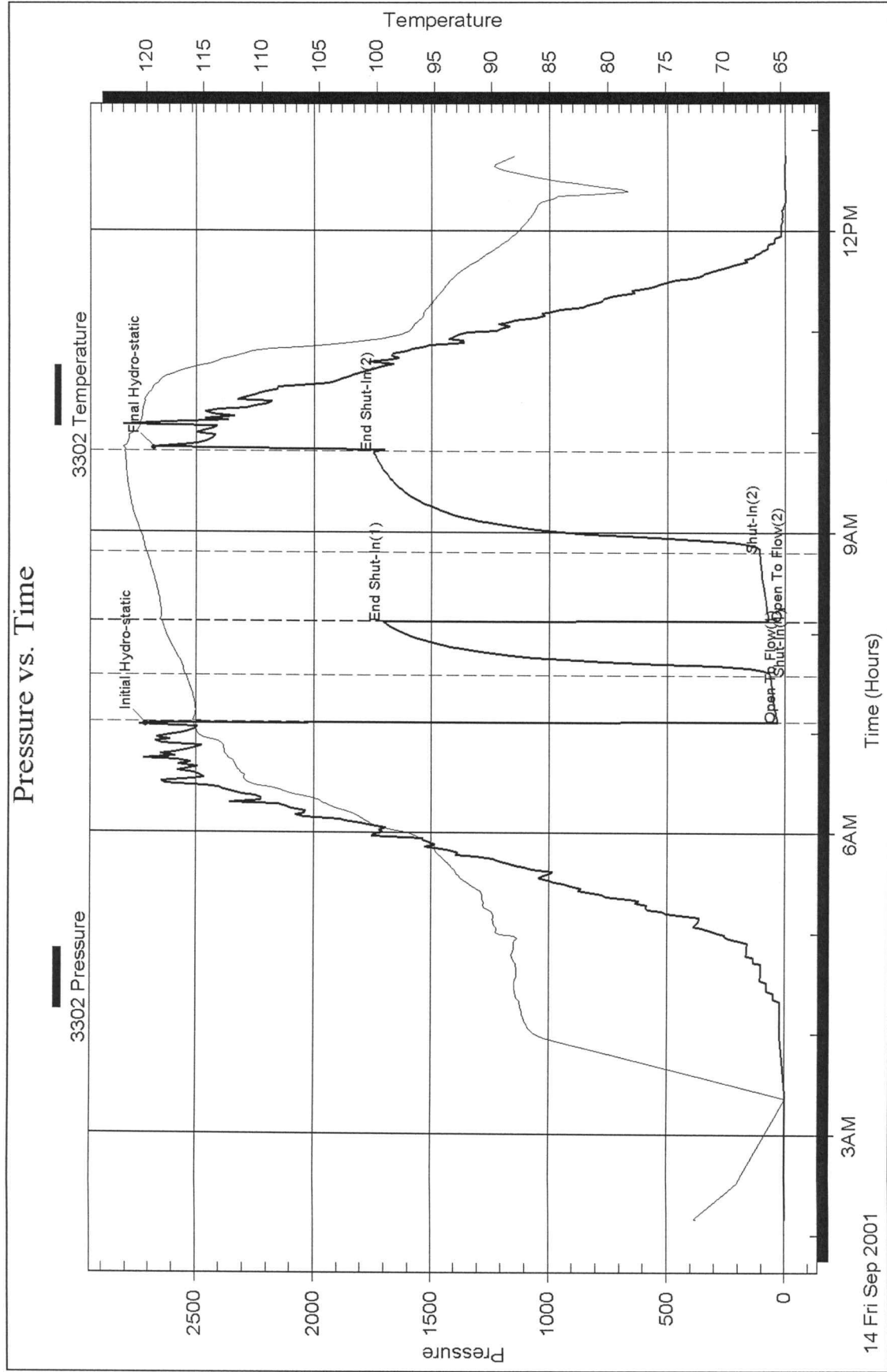
Serial #: 3302

Inside

Midco Exploration, Inc.

19-33s-25w Clark KS

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Midco Exploration, Inc.**

414 Plaza Dr., Suite 204
Westmont, IL 60559

ATTN: Alan Downing

19-33s-25w Clark KS

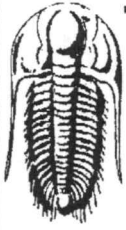
Theis #2-19

Start Date: 2001.09.15 @ 19:39:17

End Date: 2001.09.16 @ 06:30:32

Job Ticket #: 14993 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

Midco Exploration, Inc.
414 Plaza Dr., Suite 204
Westmont, IL 60559
ATTN: Alan Downing

Theis #2-19
19-33s-25w Clark KS
Job Ticket: 14993 **DST#: 2**
Test Start: 2001.09.15 @ 19:39:17

GENERAL INFORMATION:

Formation: **Chester"A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:45:02
Time Test Ended: 06:30:32
Interval: **5409.00 ft (KB) To 5450.00 ft (KB) (TVD)**
Total Depth: 5450.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole
Tester: Darren L. Amerine
Unit No: 19
Reference Elevations: 2132.00 ft (KB)
2121.00 ft (CF)
KB to GR/CF: 11.00 ft

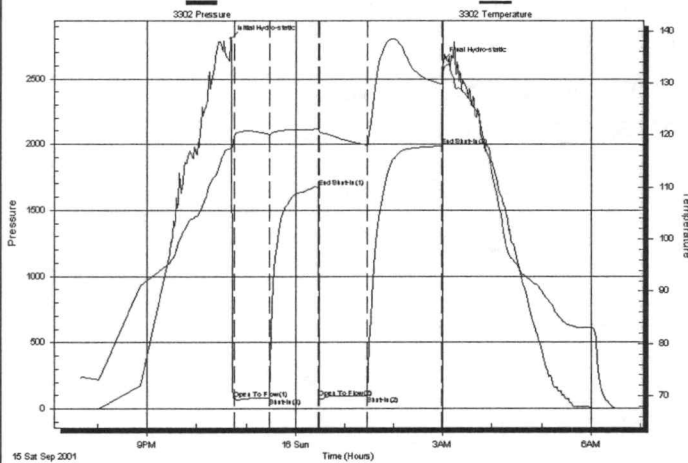
Serial #: 3302

Inside

Press@RunDepth: 93.05 psig @ 5417.00 ft (KB) Capacity: 7000.00 psig
Start Date: 2001.09.15 End Date: 2001.09.16 Last Calib.: 2001.09.16
Start Time: 19:39:19 End Time: 06:30:32 Time On Btm: 2001.09.15 @ 22:41:02
Time Off Btm: 2001.09.16 @ 02:59:47

TEST COMMENT: IF:Strong blow b.o.b in 40 sec.GTS in 7 mins.Gauge gas.
IS:Blew troughout shut in.
FF:Strong blow b.o.b in 10 sec.gauge gas.
FS:Bled down n for 45 mins.no blow back.

Pressure vs. Time



PRESSURE SUMMARY

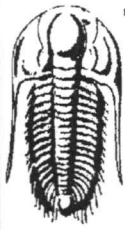
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2803.12	117.51	Initial Hydro-static
4	72.44	119.47	Open To Flow (1)
48	82.22	120.09	Shut-In(1)
107	1676.74	121.12	End Shut-In(1)
109	83.24	120.67	Open To Flow (2)
167	93.05	118.01	Shut-In(2)
258	1986.87	129.81	End Shut-In(2)
259	2637.13	132.66	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	GCM 5%gas 95% mud	0.89
5208.00	01 - Gas	72.05

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.38	10.00	89.38
Last Gas Rate	0.38	17.00	115.03
Max. Gas Rate	0.38	19.00	122.35



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Midco Exploration, Inc.
414 Plaza Dr., Suite 204
Westmont, IL 60559
ATTN: Alan Downing

Theis #2-19
19-33s-25w Clark KS
Job Ticket: 14993 **DST#: 2**
Test Start: 2001.09.15 @ 19:39:17

Tool Information

Drill Pipe:	Length: 5098.00 ft	Diameter: 3.80 inches	Volume: 71.51 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 290.00 ft	Diameter: 2.25 inches	Volume: 1.43 bbl	Weight to Pull Loose: 80000.00 lb
			Total Volume: 72.94 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	5409.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	41.00 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
C.O. Sub	1.00			5382.00	
S.I. Tool	5.00			5387.00	
HMV	5.00			5392.00	
Jars	5.00			5397.00	
Safety Joint	2.00			5399.00	
Packer	5.00			5404.00	28.00 Bottom Of Top Packer
Packer	5.00			5409.00	
Stubb	1.00			5410.00	
Anchor	7.00			5417.00	
Recorder	0.00	3302	Inside	5417.00	
Blank Spacing	30.00			5447.00	
Recorder	0.00	13769	Outside	5447.00	
Bullnose	3.00			5450.00	41.00 Bottom Packers & Anchor

Total Tool Length: 69.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Midco Exploration, Inc.

Theis #2-19

414 Plaza Dr., Suite 204
Westmont, IL 60559

19-33s-25w Clark KS

Job Ticket: 14993

DST#: 2

ATTN: Alan Downing

Test Start: 2001.09.15 @ 19:39:17

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in ³	Gas Cushion Type:		
Resistivity: 0.08 ohm.m	Gas Cushion Pressure: psig		
Salinity: 9900.00 ppm			
Filter Cake: 0.32 inches			

Recovery Information

Recovery Table

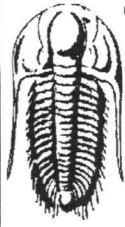
Length ft	Description	Volume bbl
180.00	GCM 5%gas 95%mud	0.885
5208.00	01 - Gas	72.053

Total Length: 5388.00 ft Total Volume: 72.938 bbl

Num Fluid Samples: 1 Num Gas Bombs: 0 Serial #:

Laboratory Name: Caraway Laboratory Location: Liberal KS

Recovery Comments:



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Midco Exploration, Inc.

Theis #2-19

414 Plaza Dr., Suite 204
Westmont, IL 60559

19-33s-25w Clark KS

Job Ticket: 14993

DST#: 2

ATTN: Alan Downing

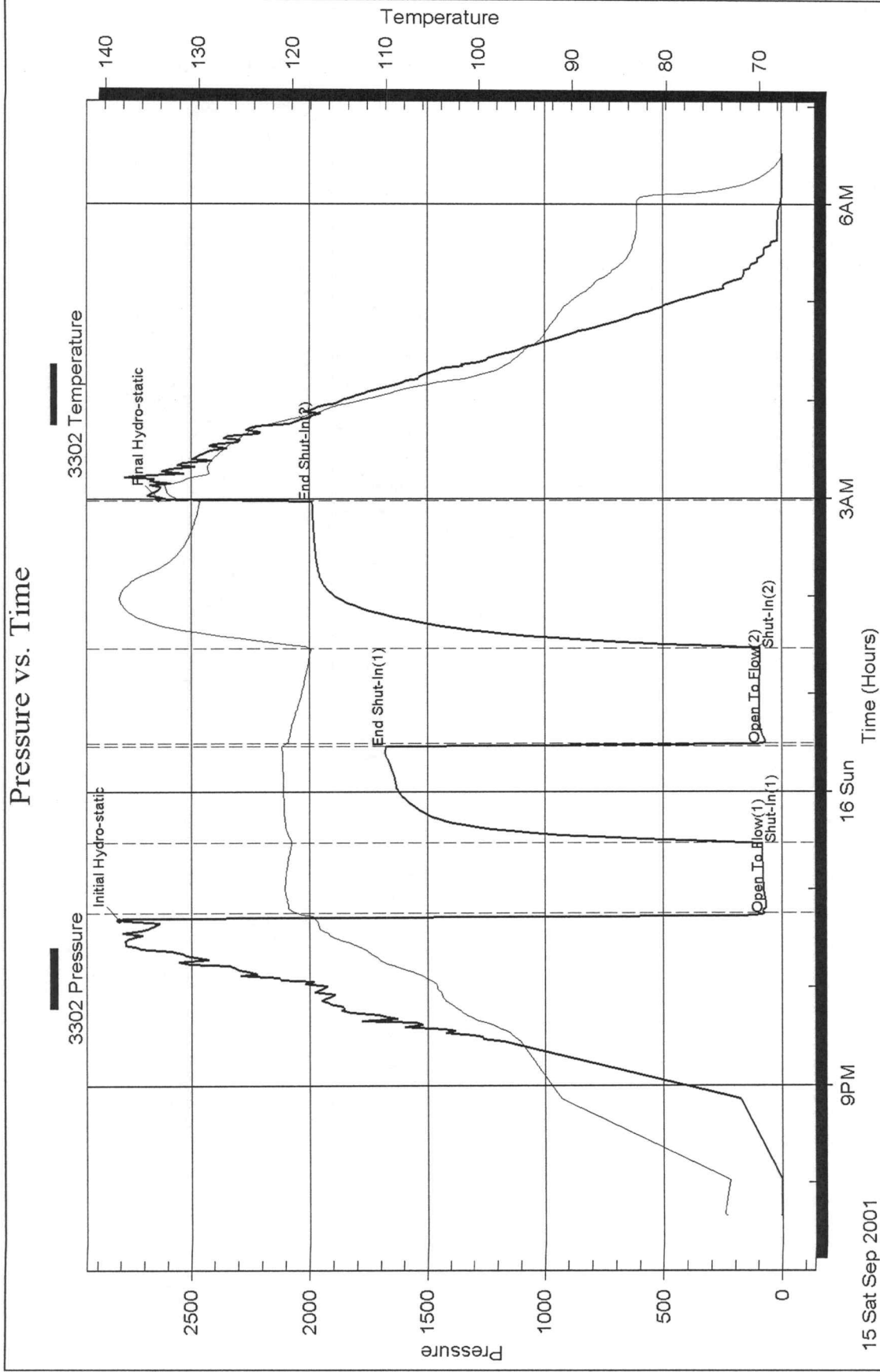
Test Start: 2001.09.15 @ 19:39:17

Gas Rates Information

Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m ³ /d)
1	12	0.38	10.00	89.38
1	17	0.38	14.00	104.04
1	22	0.38	15.00	107.70
1	27	0.38	17.00	115.03
1	32	0.38	18.00	118.69
1	37	0.38	18.00	118.69
1	42	0.38	18.00	118.69
1	45	0.38	18.00	118.69
2	10	0.38	19.00	122.35
2	20	0.38	19.00	122.35
2	30	0.38	18.00	118.69
2	40	0.38	17.50	116.86
2	50	0.38	17.50	116.86
2	60	0.38	17.00	115.03



NATURAL GAS ANALYSIS REPORT

Sampled by:
 Trilobite Testing, L. L. C.
 Hays, Kansas
 Scott City, Kansas
 Phone: 800-728-5369
 Fax: 785-625-5620

Analyzed by:
 Caraway Analytical, Inc
 P. O. Box 2137
 Liberal, Kansas 67905
 Phone: 620-624-5389
 Fax: 620-626-7108

 Lab Number: 20014427 Analyzed: 09/19/01
 Sample From: Theis 2-19 DST 2 Pressure:
 Producer: Midco Exploration Temperature:
 Date: Location: 19-33-25
 Time: County: Clark
 Sampler: State: Kansas
 Source: Formation: Chester

 Upper A

	Mole %	GPM
Helium	He: 0.137	0.000
Hydrogen	H2: 0.005	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 3.637	0.000
Carbon Dioxide	CO2: 0.014	0.000
Methane	C1: 81.174	0.000
Ethane	C2: 5.528	1.478
Propane	C3: 4.455	1.228
Iso Butane	iC4: 0.926	0.303
Normal Butane	nC4: 1.791	0.565
Iso Pentane	iC5: 0.598	0.219
Normal Pentane	nC5: 0.626	0.227
Hexanes Plus	C6+: 1.109	0.484

TOTAL: 100.000 4.503
 Z Fact: 0.9966
 SP.GR.: 0.7339
 BTU (SAT): 1209.8 @ 14.73 psia
 BTU (DRY): 1231.2 @ 14.73 psia
 OCTANE RATING: 119.1

 COMMENTS:

0.000



DRILL STEM TEST REPORT

Prepared For: **Midco Exploration, Inc.**

414 Plaza Dr., Suite 204
Westmont, IL 60559

ATTN: Alan Downing

19-33s-25w Clark KS

Theis #2-19

Start Date: 2001.09.16 @ 21:32:49

End Date: 2001.09.17 @ 09:07:49

Job Ticket #: 14994 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

Midco Exploration, Inc.
 414 Plaza Dr., Suite 204
 Westmont, IL 60559
 ATTN: Alan Downing

Theis #2-19
19-33s-25w Clark KS
 Job Ticket: 14994 **DST#: 3**
 Test Start: 2001.09.16 @ 21:32:49

GENERAL INFORMATION:

Formation: **Chester lower "A" uppe**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:36:34
 Time Test Ended: 09:07:49
 Interval: **5449.00 ft (KB) To 5502.00 ft (KB) (TVD)**
 Total Depth: 5502.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole
 Tester: Darren L. Amerine
 Unit No: 19
 Reference Elevations: 2132.00 ft (KB)
 2121.00 ft (CF)
 KB to GR/CF: 11.00 ft

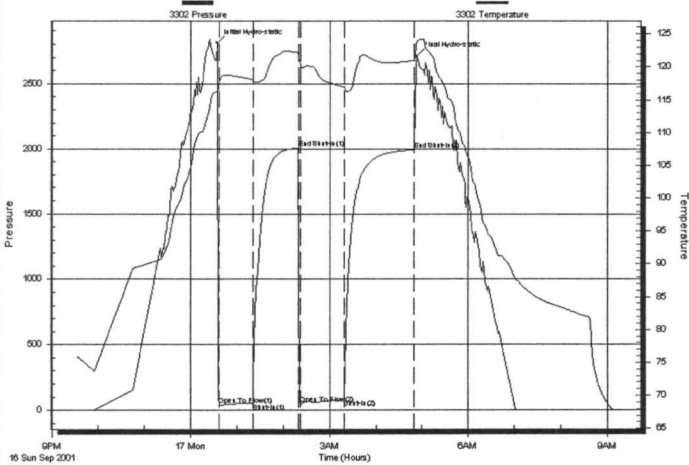
Serial #: 3302

Inside

Press@RunDepth: 80.11 psig @ 5450.00 ft (KB) Capacity: 7000.00 psig
 Start Date: 2001.09.16 End Date: 2001.09.17 Last Calib.: 2001.09.17
 Start Time: 21:32:51 End Time: 09:07:49 Time On Btm: 2001.09.17 @ 00:33:49
 Time Off Btm: 2001.09.17 @ 04:52:49

TEST COMMENT: IF: Strong blow b.o.b in 15 sec. GTS in 15 mins gauge gas.
 IS: Bled down n for 5 mins. no blow back.
 FF: Strong blow b.o.b in 10 sec. Gauge gas.
 FS: Bled down n for 10 mins. No blow back.

Pressure vs. Time



PRESSURE SUMMARY

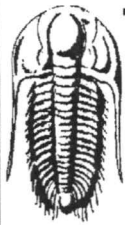
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2809.71	116.42	Initial Hydro-static
3	36.79	117.78	Open To Flow (1)
47	55.96	118.06	Shut-In(1)
106	2008.48	122.19	End Shut-In(1)
109	45.31	120.34	Open To Flow (2)
165	80.11	116.97	Shut-In(2)
256	1991.35	120.98	End Shut-In(2)
259	2709.09	123.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
145.00	111 - Gas and Water cut Mud	0.71
5304.00	01 - Gas	73.08

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.38	7.50	80.23
Last Gas Rate	0.25	14.50	45.85
Max. Gas Rate	0.25	14.50	45.85



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Midco Exploration, Inc.
414 Plaza Dr., Suite 204
Westmont, IL 60559
ATTN: Alan Downing

Theis #2-19
19-33s-25w Clark KS
Job Ticket: 14994 **DST#: 3**
Test Start: 2001.09.16 @ 21:32:49

Tool Information

Drill Pipe:	Length: 5159.00 ft	Diameter: 3.80 inches	Volume: 72.37 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 290.00 ft	Diameter: 2.25 inches	Volume: 1.43 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 73.80 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	5449.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	53.00 ft			
Tool Length:	81.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			5422.00	
S.I. Tool	5.00			5427.00	
HMV	5.00			5432.00	
Jars	5.00			5437.00	
Safety Joint	2.00			5439.00	
Packer	5.00			5444.00	28.00 Bottom Of Top Packer
Packer	5.00			5449.00	
Stubb	1.00			5450.00	
Recorder	0.00	3302	Inside	5450.00	
Anchor	17.00			5467.00	
Recorder	0.00	13769	Outside	5467.00	
Blank Spacing	32.00			5499.00	
Bullnose	3.00			5502.00	53.00 Bottom Packers & Anchor

Total Tool Length: 81.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Midco Exploration, Inc.

Theis #2-19

414 Plaza Dr., Suite 204
Westmont, IL 60559

19-33s-25w Clark KS

Job Ticket: 14994

DST#: 3

ATTN: Alan Downing

Test Start: 2001.09.16 @ 21:32:49

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	80000 ppm
Viscosity: 64.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.19 in ³	Gas Cushion Type:		
Resistivity: 0.07 ohm.m	Gas Cushion Pressure: psig		
Salinity: 13000.00 ppm			
Filter Cake: 0.32 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
145.00	111 - Gas and Water cut Mud	0.713
5304.00	01 - Gas	73.080

Total Length: 5449.00 ft Total Volume: 73.793 bbl

Num Fluid Samples: 1

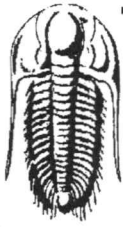
Num Gas Bombs: 0

Serial #:

Laboratory Name: Caraway

Laboratory Location: Liberal KS

Recovery Comments: .6@70



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Midco Exploration, Inc.
414 Plaza Dr., Suite 204
Westmont, IL 60559
ATTN: Alan Downing

Theis #2-19
19-33s-25w Clark KS
Job Ticket: 14994 **DST#: 3**
Test Start: 2001.09.16 @ 21:32:49

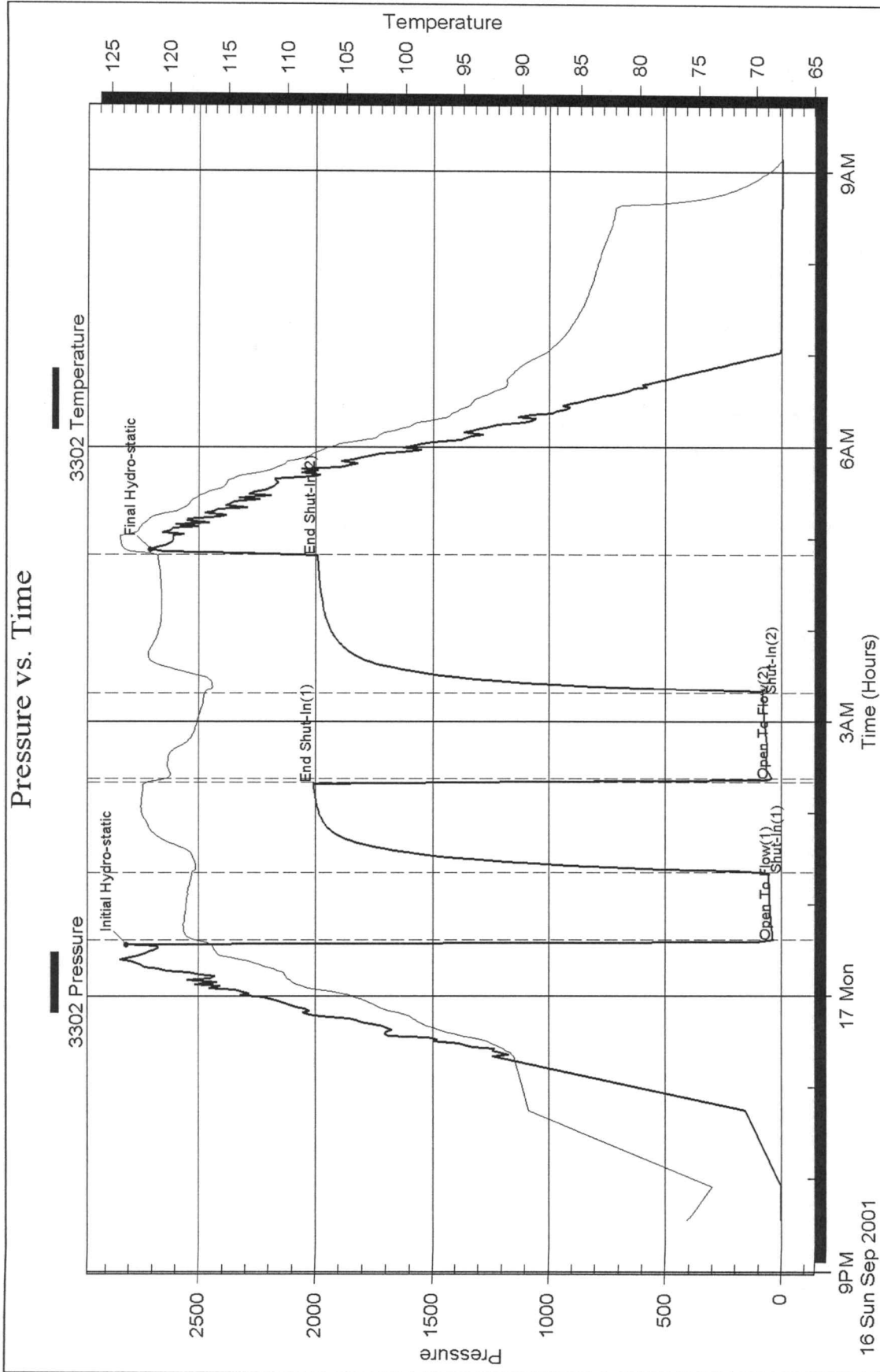
Gas Rates Information

Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m ³ /d)
2	10	0.38	7.50	80.23
2	20	0.38	4.00	67.40
2	30	0.25	7.00	33.95
2	40	0.25	10.00	38.71
2	50	0.25	12.50	42.67
2	60	0.25	14.50	45.85

Pressure vs. Time



NATURAL GAS ANALYSIS REPORT

Sampled by:
 Trilobite Testing, L. L. C.
 Hays, Kansas
 Scott City, Kansas
 Phone: 800-728-5369
 Fax: 785-625-5620

Analyzed by:
 Caraway Analytical, Inc
 P. O. Box 2137
 Liberal, Kansas 67905
 Phone: 620-624-5389
 Fax: 620-626-7108

 Lab Number: 20014428 Analyzed: 09/19/01
 Sample From: Theis 2-19 DST 3 Pressure:
 Producer: Midco Exploration Temperature:
 Date: Location: 19-33-25
 Time: County: Clark
 Sampler: State: Kansas
 Source: Formation: Chester
 ----- Lower A
 Upper B

		Mole %	GPM
Helium	He:	0.131	0.000
Hydrogen	H2:	0.000	0.000
Oxygen	O2:	0.000	0.000
Nitrogen	N2:	2.855	0.000
Carbon Dioxide	CO2:	0.099	0.000
Methane	C1:	81.246	0.000
Ethane	C2:	5.393	1.442
Propane	C3:	3.958	1.091
Iso Butane	iC4:	0.854	0.279
Normal Butane	nC4:	1.764	0.556
Iso Pentane	iC5:	0.698	0.255
Normal Pentane	nC5:	0.778	0.282
Hexanes Plus	C6+:	2.224	0.970

TOTAL: 100.000 4.876
 Z Fact: 0.9963
 SP.GR.: 0.7596
 BTU (SAT): 1259.5 @ 14.73 psia
 BTU (DRY): 1281.7 @ 14.73 psia
 OCTANE RATING: 118.8

 COMMENTS:

0.000

NATURAL GAS ANALYSIS REPORT

Sampled by:
Trilobite Testing, L. L. C.
Hays, Kansas
Scott City, Kansas
Phone: 800-728-5369
Fax: 785-625-5620

Analyzed by:
Caraway Analytical, Inc
P. O. Box 2137
Liberal, Kansas 67905
Phone: 620-624-5389
Fax: 620-626-7108

Lab Number: 20014428 Analyzed: 09/19/01

Sample From: Theis 2-19 DST 3 Pressure:
Producer: Midco Exploration Temperature:

Date: Location: 19-33-25

Time: County: Clark
Sampler: State: Kansas
Source: Formation: Chester

-----Lower A

Upper B

	Mole %	GPM
Helium	He: 0.131	0.000
Hydrogen	H2: 0.000	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 2.855	0.000
Carbon Dioxide	CO2: 0.099	0.000
Methane	C1: 81.246	0.000
Ethane	C2: 5.393	1.442
Propane	C3: 3.958	1.091
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Hexanes Plus	C6+: 2.224	0.970

TOTAL: 100.000 4.876

Z Fact: 0.9963

SP.GR.: 0.7596

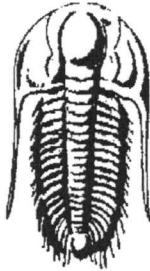
BTU (SAT): 1259.5 @ 14.73 psia

BTU (DRY): 1281.7 @ 14.73 psia

OCTANE RATING: 118.8

COMMENTS:

0.000



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Midco Exploration, inc.**

414 Plaza, drive Suite 204
Westmont, IL 60559

ATTN: Alan Downing

19-33s-25w Clark KS

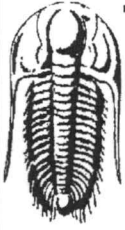
Thisis #2-19

Start Date: 2001.09.23 @ 19:19:22

End Date: 2001.09.24 @ 11:56:22

Job Ticket #: 13432 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

Midco Exploration, inc.
414 Plaza, drive Suite 204
Westmont, IL 60559
ATTN: Alan Downing

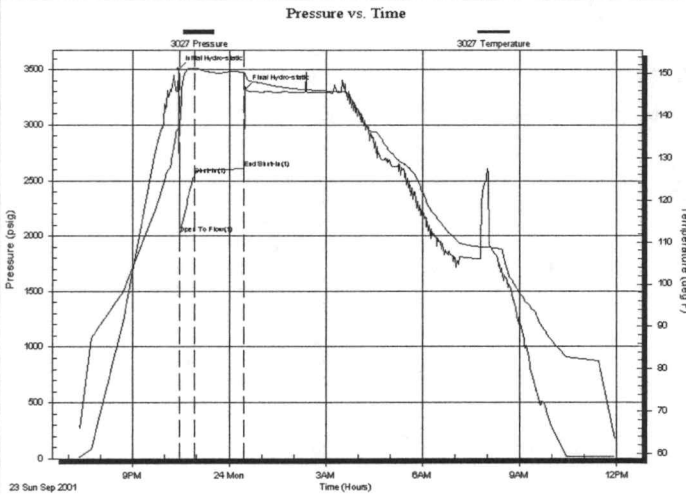
Theis #2-19
19-33s-25w Clark KS
Job Ticket: 13432 **DST#: 4**
Test Start: 2001.09.23 @ 19:19:22

GENERAL INFORMATION:

Formation: **Viola**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:27:07
Time Test Ended: 11:56:22
Interval: **6857.00 ft (KB) To 6891.00 ft (KB) (TVD)**
Total Depth: 6891.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole
Tester: Blake Wallace
Unit No: 20
Reference Elevations: 2132.00 ft (KB)
2121.00 ft (CF)
KB to GRVCF: 11.00 ft

Serial #: 3027 **Inside**
Press@RunDepth: 2544.81 psig @ 6859.00 ft (KB) Capacity: 7000.00 psig
Start Date: 2001.09.23 End Date: 2001.09.24 Last Calib.: 1899.12.30
Start Time: 19:19:24 End Time: 11:56:22 Time On Btm: 2001.09.23 @ 22:25:37
Time Off Btm: 2001.09.24 @ 00:30:22

TEST COMMENT: IF-strong blow BOB in 15 sec GTS 17 min.
Rotated 5 times, had lots of tork



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3504.78	136.91	Initial Hydro-static
2	2016.51	137.31	Open To Flow (1)
31	2544.81	151.17	Shut-In(1)
122	2606.18	150.23	End Shut-In(1)
125	3331.84	149.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3853.00	100% Water	50.76
868.00	5% W 20% G 25% M 50% O	12.18
868.00	5% M 15% W 30% O 50% G	12.18

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	5.00	7.26
Last Gas Rate	0.13	20.00	12.88
Max. Gas Rate	0.13	20.00	12.88



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Midco Exploration, inc.
414 Plaza, drive Suite 204
Westmont, IL 60559
ATTN: Alan Downing

Theis #2-19
19-33s-25w Clark KS
Job Ticket: 13432 **DST#: 4**
Test Start: 2001.09.23 @ 19:19:22

Tool Information

Drill Pipe:	Length: 6505.00 ft	Diameter: 3.80 inches	Volume: 91.25 bbl	Tool Weight: 1800.00 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: 361.00 ft	Diameter: 2.25 inches	Volume: 1.78 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 93.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	36.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	6857.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	61.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			6831.00	
S.I. Tool	5.00			6836.00	
HMV	5.00			6841.00	
Jars	5.00			6846.00	
Safety Joint	2.00			6848.00	
Packer	5.00			6853.00	27.00 Bottom Of Top Packer
Packer	4.00			6857.00	
Stubb	1.00			6858.00	
Perforations	1.00			6859.00	
Recorder	0.00	3027	Inside	6859.00	
Perforations	30.00			6889.00	
Recorder	0.00	11019	Outside	6889.00	
Bullnose	2.00			6891.00	34.00 Bottom Packers & Anchor

Total Tool Length: 61.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Midco Exploration, inc.

Theis #2-19

414 Plaza, drive Suite 204
Westmont, IL 60559

19-33s-25w Clark KS

Job Ticket: 13432

DST#: 4

ATTN: Alan Downing

Test Start: 2001.09.23 @ 19:19:22

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 46.9 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 55000 ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl	
Water Loss: 10.17 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 9000.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3853.00	100% Water	50.759
868.00	5% W 20% G 25% M 50% O	12.176
868.00	5% M 15% W 30% O 50% G	12.176

Total Length: 5589.00 ft Total Volume: 75.111 bbl

Num Fluid Samples: 1

Num Gas Bombs: 0

Serial #:

Laboratory Name: Caraway

Laboratory Location: Liberal, Ks

Recovery Comments: Corrective Gravity=46.9 API (45 API @ 60 deg)
.185 @ 55 Deg Chlorides = 55000



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Midco Exploration, inc.
414 Plaza, drive Suite 204
Westmont, IL 60559
ATTN: Alan Downing

Theis #2-19
19-33s-25w Clark KS
Job Ticket: 13432 **DST#: 4**
Test Start: 2001.09.23 @ 19:19:22

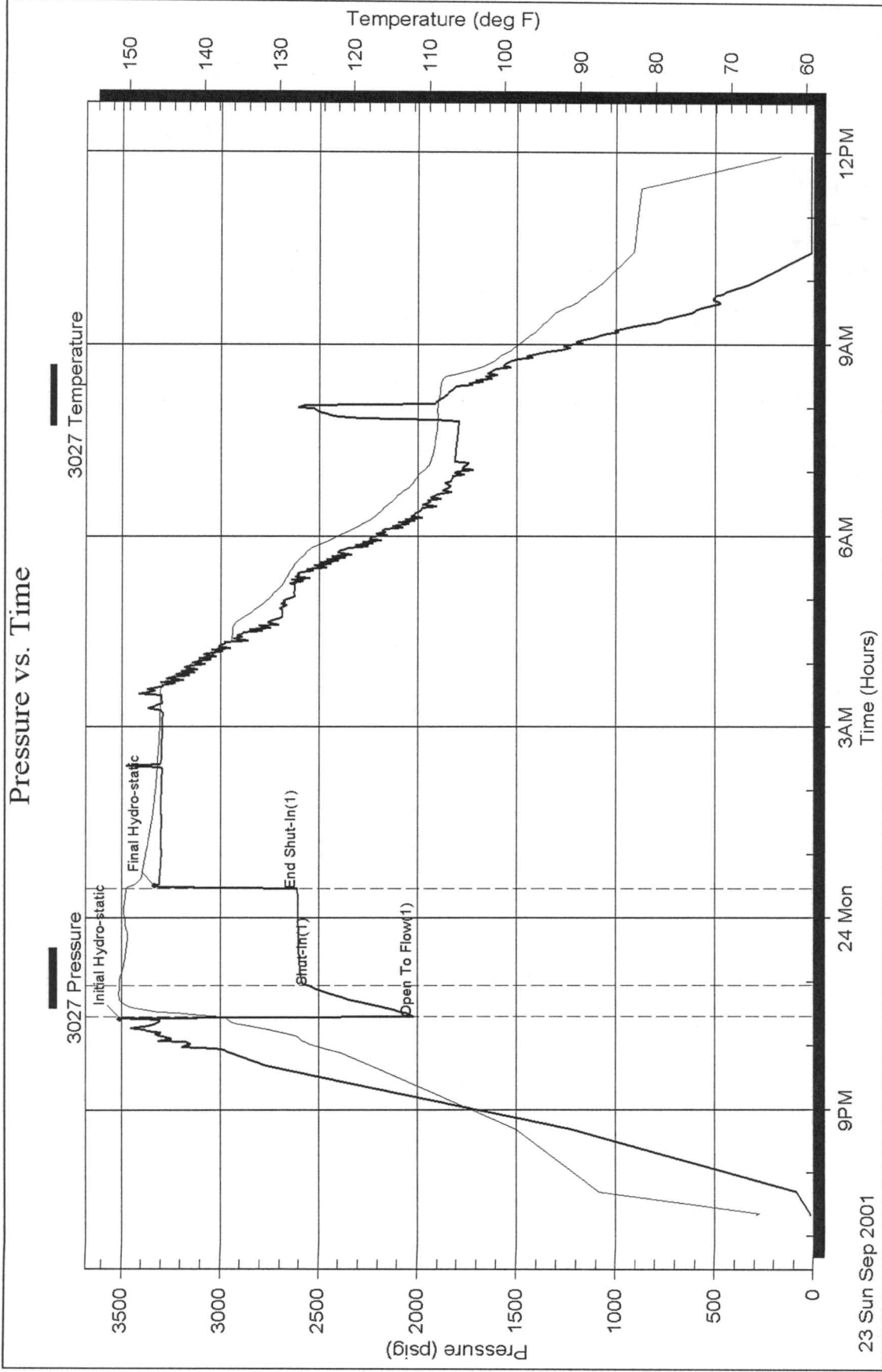
Gas Rates Information

Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m ³ /d)
1	20	0.13	5.00	7.26
1	25	0.13	12.00	9.88
1	30	0.13	20.00	12.88

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Midco Exploration,inc.**

414 Plaza,drive Suite 204
Westmont, IL 60559

ATTN: Alan Downing

19-33s-25w Clark KS

Theis #2-19

Start Date: 2001.10.11 @ 01:27:06

End Date: 2001.10.11 @ 14:39:21

Job Ticket #: 14105 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Midco Exploration, inc.
414 Plaza, drive Suite 204
Westmont, IL 60559
ATTN: Alan Downing

Theis #2-19
19-33s-25w Clark KS
Job Ticket: 14105 **DST#: 5**
Test Start: 2001.10.11 @ 01:27:06

GENERAL INFORMATION:

Formation: **Chester**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:31:51
Time Test Ended: 14:39:21
Interval: **5516.00 ft (KB) To 5558.00 ft (KB) (TVD)**
Total Depth: 5558.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Poor
Test Type: Conventional Bottom Hole
Tester: Darren L. Amerine
Unit No: 19
Reference Elevations: 2132.00 ft (KB)
2121.00 ft (CF)
KB to GR/CF: 11.00 ft

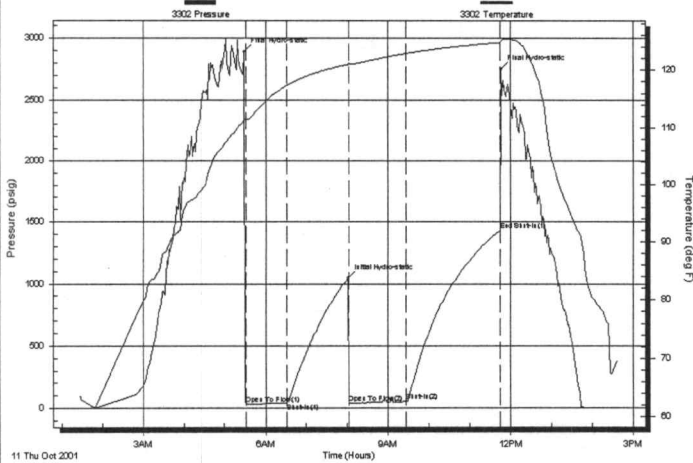
Serial #: 3302

Inside

Press@RunDepth: 39.80 psig @ 5523.00 ft (KB) Capacity: 7000.00 psig
Start Date: 2001.10.11 End Date: 2001.10.11 Last Calib.: 2001.10.11
Start Time: 01:27:08 End Time: 14:39:21 Time On Btm: 2001.10.11 @ 08:01:21
Time Off Btm: 2001.10.11 @ 05:28:51

TEST COMMENT: IF: Fair blow built to b.o.b in 3 mins.
IS: Bled down n for 5 mins. no blow back.
FF: Strong blow b.o.b in 15 sec.
FS: Bled down n for 5 mins. no blow back.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2891.32	111.29	Final Hydro-static
3	31.95	111.39	Open To Flow (1)
64	39.80	117.37	Shut-In(1)
153	1045.87	120.97	Initial Hydro-static
154	39.48	121.15	Open To Flow (2)
237	59.16	122.87	Shut-In(2)
376	1432.83	124.80	End Shut-In(1)
378	2750.58	125.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	VSGCM 2% gas 98% mud	0.34
3500.00	01 - Gas	47.09

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Midco Exploration, inc.

Theis #2-19

414 Plaza, drive Suite 204
Westmont, IL 60559

19-33s-25w Clark KS

Job Ticket: 14105

DST#: 5

ATTN: Alan Downing

Test Start: 2001.10.11 @ 01:27:06

Tool Information

Drill Pipe:	Length: 5223.00 ft	Diameter: 3.80 inches	Volume: 73.26 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 290.00 ft	Diameter: 2.25 inches	Volume: 1.43 bbl	Weight to Pull Loose: 110000.0 lb
			<u>Total Volume: 74.69 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	5516.00 ft			Final 77000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	70.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			5489.00	
S.I. Tool	5.00			5494.00	
HMV	5.00			5499.00	
Jars	5.00			5504.00	
Safety Joint	2.00			5506.00	
Packer	5.00			5511.00	28.00 Bottom Of Top Packer
Packer	5.00			5516.00	
Stubb	1.00			5517.00	
Anchor	6.00			5523.00	
Recorder	0.00	3302	Inside	5523.00	
Blank Spacing	31.00			5554.00	
Recorder	0.00	13769	Outside	5554.00	
Bullnose	4.00			5558.00	42.00 Bottom Packers & Anchor

Total Tool Length: 70.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Midco Exploration, inc.
414 Plaza, drive Suite 204
Westmont, IL 60559
ATTN: Alan Downing

Theis #2-19
19-33s-25w Clark KS
Job Ticket: 14105 **DST#: 5**
Test Start: 2001.10.11 @ 01:27:06

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 72.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.58 in ³	Gas Cushion Type:		
Resistivity: 0.60 ohm.m	Gas Cushion Pressure: psig		
Salinity: 9000.00 ppm			
Filter Cake: 0.32 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	VSGCM 2% gas 98% mud	0.344
3500.00	01 - Gas	47.092

Total Length: 3570.00 ft Total Volume: 47.436 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time

