

**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations Inc.**

P.O.Box 33  
Russell,KS 67665

ATTN: Allen Bangert

**21-10s-20w Rooks-KS**

**Vinzant # 1**

Start Date: 2002.06.18 @ 12:48:26

End Date: 2002.06.18 @ 20:26:56

Job Ticket #: 16406                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Mai Oil Operations Inc.

Vinzant # 1

21-10s-20w Rooks-KS

DST # 1

Topeka

2002.06.18



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations Inc.

**Vinzant # 1**

P.O.Box 33  
Russell, KS 67665

**21-10s-20w Rooks-KS**

ATTN: Allen Bangert

Job Ticket: 16406

**DST#: 1**

Test Start: 2002.06.18 @ 12:48:26

## GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:51:56

Time Test Ended: 20:26:56

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: **3400.00 ft (KB) To 3466.00 ft (KB) (TVD)**

Total Depth: 3466.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2219.00 ft (KB)

2214.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 3017**

Inside

Press@RunDepth: 126.87 psig @ 3407.01 ft (KB)

Start Date: 2002.06.18

End Date: 2002.06.18

Capacity: 7000.00 psig

Last Calib.: 2002.06.18

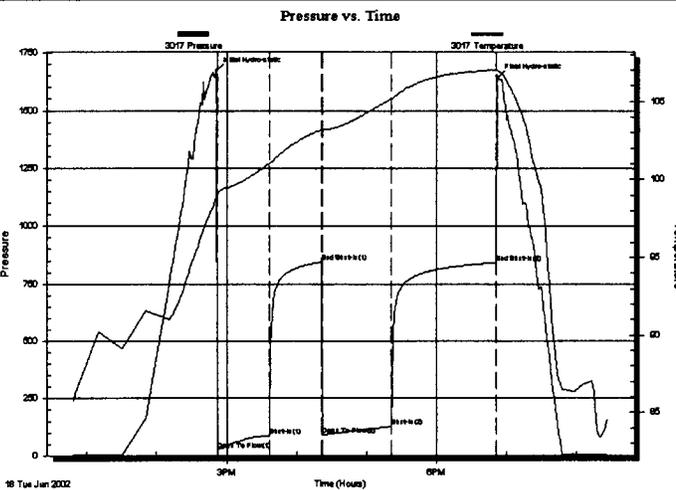
Start Time: 12:48:27

End Time: 20:26:56

Time On Btm: 2002.06.18 @ 14:51:26

Time Off Btm: 2002.06.18 @ 18:52:56

TEST COMMENT: F-Weak built to 4" IS-no blow  
FF-Weak built to 4" FS-no blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1673.02	98.86	Initial Hydro-static
1	22.75	98.99	Open To Flow (1)
45	87.82	100.99	Shut-In(1)
90	843.63	103.19	End Shut-In(1)
91	89.42	103.23	Open To Flow (2)
150	126.87	105.16	Shut-In(2)
240	841.54	107.01	End Shut-In(2)
242	1642.23	106.96	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	Muddy Water 35%-M--65%-W	0.22
180.00	Salt Water	1.80

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations Inc.

**Vinzant # 1**

P.O.Box 33  
Russell,KS 67665

**21-10s-20w Rooks-KS**

Job Ticket: 16406

**DST#: 1**

ATTN: Allen Bangert

Test Start: 2002.06.18 @ 12:48:26

### Tool Information

Drill Pipe:	Length: 3275.00 ft	Diameter: 3.80 inches	Volume: 45.94 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 125.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 42000.00 lb
			<u>Total Volume: 46.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3400.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	66.02 ft			
Tool Length:	86.02 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			3381.00	
S.I. Tool	5.00			3386.00	
HMV	5.00			3391.00	
Packer	4.00			3395.00	20.00 Bottom Of Top Packer
Packer	5.00			3400.00	
Stubb	1.00			3401.00	
Perforations	5.00			3406.00	
C.O. Sub	1.00			3407.00	
Recorder	0.01	3017	Inside	3407.01	
Blank Spacing	31.00			3438.01	
C.O. Sub	1.00			3439.01	
Perforations	24.00			3463.01	
Recorder	0.01	13308	Outside	3463.02	
Bullnose	3.00			3466.02	66.02 Bottom Packers & Anchor

**Total Tool Length: 86.02**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mai Oil Operations Inc.

**Vinzant # 1**

P.O.Box 33  
Russell,KS 67665

**21-10s-20w Rooks-KS**

Job Ticket: 16406

**DST#: 1**

ATTN: Allen Bangert

Test Start: 2002.06.18 @ 12:48:26

**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: 48.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
45.00	Muddy Water 35%-M--65%-W	0.221
180.00	Salt Water	1.796

Total Length: 225.00 ft      Total Volume: 2.017 bbl

Num Fluid Samples: 0

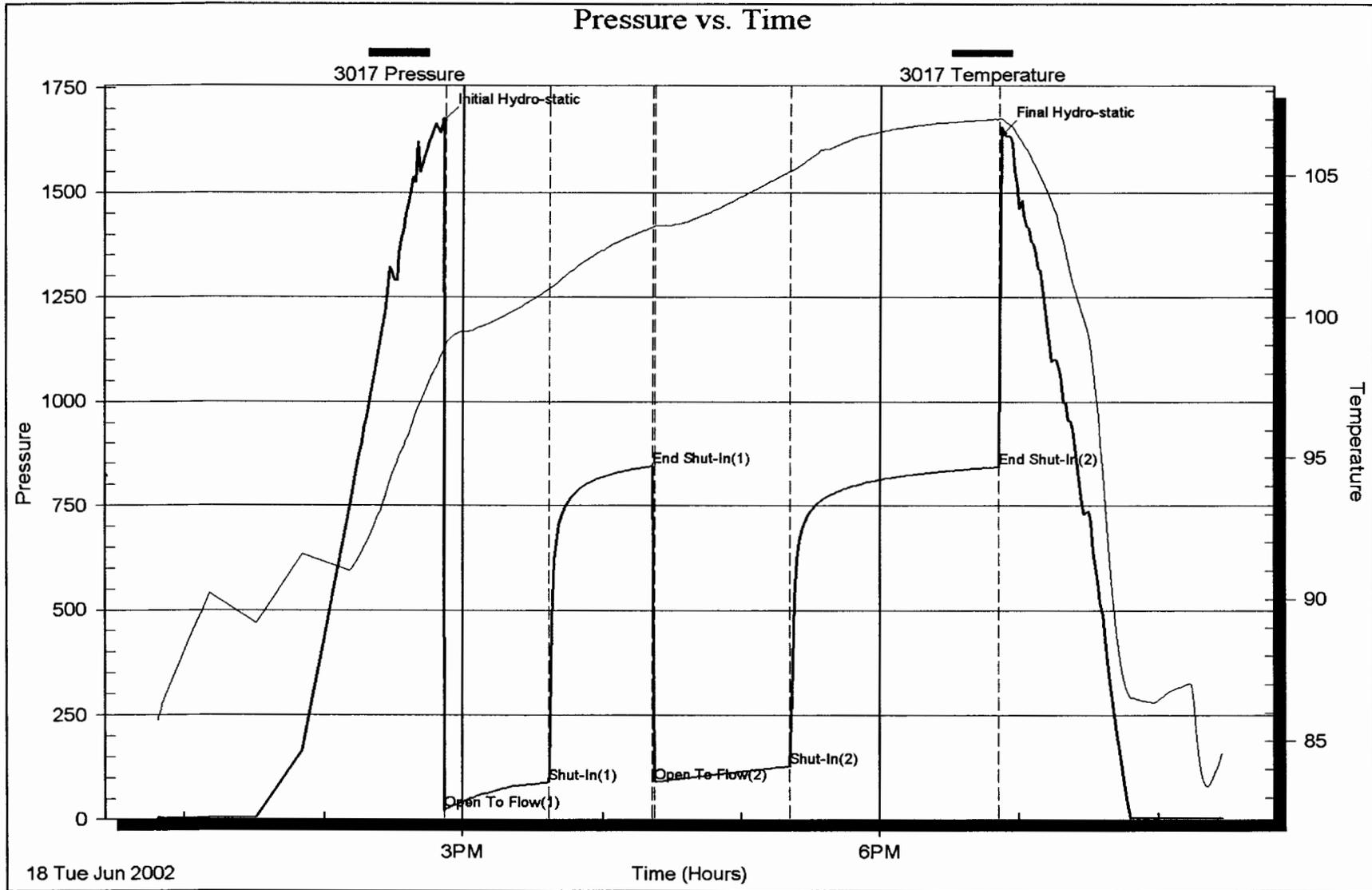
Num Gas Bombs: 0

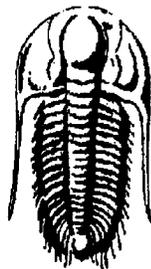
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .07@96 degrees F





**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations Inc.**

P.O.Box 33  
Russell,KS 67665

ATTN: Allen Bangert

**21-10s-20w Rooks-KS**

**Vinzant # 1**

Start Date: 2002.06.19 @ 23:28:42

End Date: 2002.06.20 @ 06:43:42

Job Ticket #: 16407                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Mai Oil Operations Inc.

Vinzant # 1

21-10s-20w Rooks-KS

DST # 2

Arbuckle

2002.06.19



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations Inc.

**Vinzant # 1**

P.O.Box 33  
Russell, KS 67665

**21-10s-20w Rooks-KS**

ATTN: Allen Bangert

Job Ticket: 16407

**DST#: 2**

Test Start: 2002.06.19 @ 23:28:42

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:17:42

Time Test Ended: 06:43:42

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: **3730.00 ft (KB) To 3821.00 ft (KB) (TVD)**

Total Depth: 3821.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2219.00 ft (KB)

2214.00 ft (CF)

KB to GR/CF: 5.00 ft

## Serial #: 3017

Inside

Press@RunDepth: 87.66 psig @ 3734.01 ft (KB)

Start Date: 2002.06.19

End Date:

2002.06.20

Start Time: 23:28:43

End Time:

06:43:42

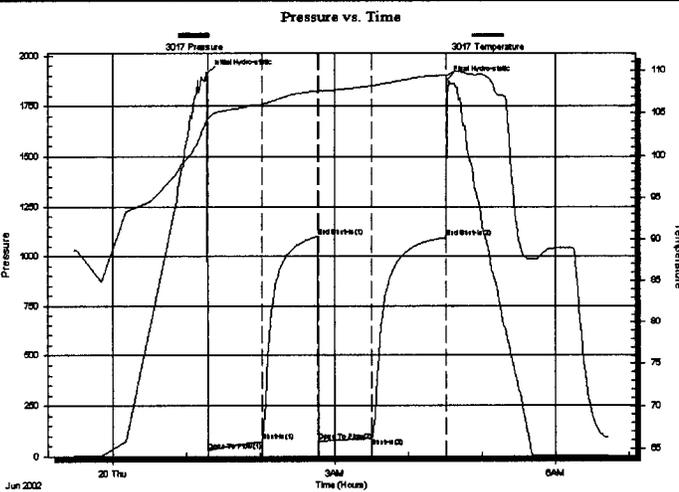
Capacity: 7000.00 psig

Last Calib.: 2002.06.20

Time On Btm: 2002.06.20 @ 01:17:12

Time Off Btm: 2002.06.20 @ 04:31:42

TEST COMMENT: IF-Weak Built to 2" IS-no blow  
FF-weak Built to 2" FSI-no blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1911.70	104.18	Initial Hydro-static
1	28.56	104.32	Open To Flow (1)
45	72.86	106.04	Shut-In(1)
90	1101.82	107.59	End Shut-In(1)
90	77.46	107.60	Open To Flow (2)
134	87.66	108.22	Shut-In(2)
194	1095.07	109.43	End Shut-In(2)
195	1880.70	109.42	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	O-C-M--35%oil--65%mud	0.59
40.00	C-G-O--10gas--90%oil	0.52

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Mai Oil Operations Inc.  
P.O.Box 33  
Russell,KS 67665  
ATTN: Allen Bangert

**Vinzant # 1**  
**21-10s-20w Rooks-KS**  
Job Ticket: 16407      **DST#:2**  
Test Start: 2002.06.19 @ 23:28:42

**Tool Information**

Drill Pipe:	Length: 3594.00 ft	Diameter: 3.80 inches	Volume: 50.41 bbl	Tool Weight: 3300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 125.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 51.02 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3730.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	91.02 ft			
Tool Length:	111.02 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			3711.00	
S.I. Tool	5.00			3716.00	
HMV	5.00			3721.00	
Packer	4.00			3725.00	20.00      Bottom Of Top Packer
Packer	5.00			3730.00	
Stubb	1.00			3731.00	
Perforations	2.00			3733.00	
C.O. Sub	1.00			3734.00	
Recorder	0.01	3017	inside	3734.01	
Blank Spacing	62.00			3796.01	
C.O. Sub	1.00			3797.01	
Perforations	21.00			3818.01	
Recorder	0.01	13308	Outside	3818.02	
Bullnose	3.00			3821.02	91.02      Bottom Packers & Anchor

**Total Tool Length: 111.02**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mai Oil Operations Inc.

**Vinzant # 1**

P.O.Box 33  
Russell,KS 67665

**21-10s-20w Rooks-KS**

Job Ticket: 16407

**DST#: 2**

ATTN: Allen Bangert

Test Start: 2002.06.19 @ 23:28:42

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API: 31 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl	
Water Loss: 8.79 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 5000.00 ppm		
Filter Cake: inches		

**Recovery Information**

Recovery Table

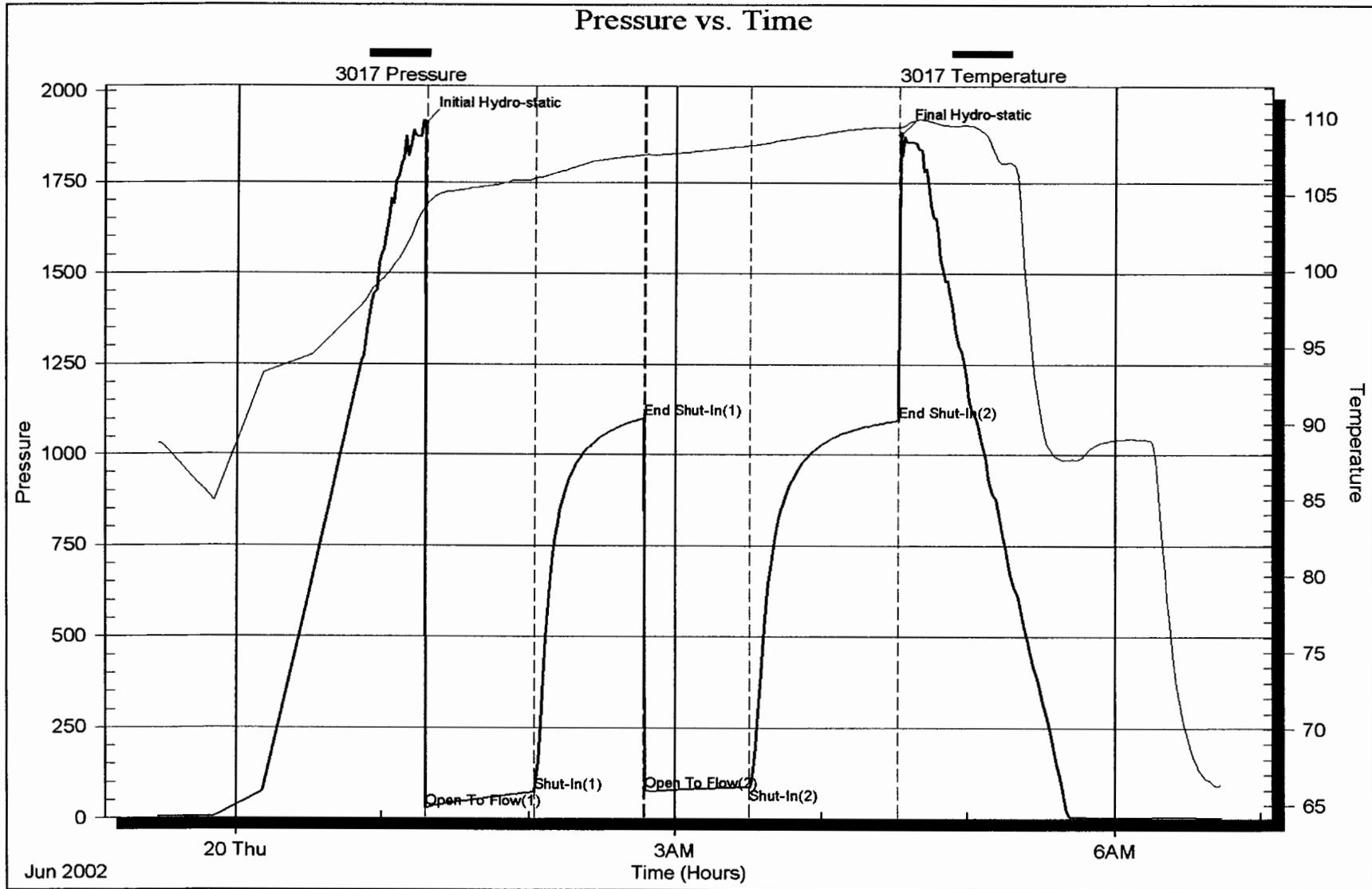
Length ft	Description	Volume bbl
120.00	O-C-M--35%oil--65%mud	0.590
40.00	C-G-O--10gas--90%oil	0.516

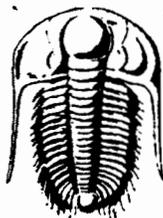
Total Length: 160.00 ft      Total Volume: 1.106 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:





# TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No 16406

## VINZANT #1 Test Ticket

Well Name & No. MAT OIL OPERATIONS, INC Test No. #1 Date 6-18-02  
 Company MAT OIL OPERATIONS, INC Zone Tested TOPEKA  
 Address P.O. BOX 33 RUSSELL, KS 67665 Elevation 2219 KB 2214 GL  
 Co. Rep / Geo. TODD MORGENSTERN Cont. MURFIN #8 Est. Ft. of Pay      Por.      %  
 Location: Sec. 21 Twp. 10 S Rge. 20 W Co. ROOKS State KS  
 No. of Copies      Distribution Sheet (Y, N)      Turnkey (Y, N)      Evaluation (Y, N)     

Interval Tested 3400 TO 3466 Initial Str Wt./Lbs. 40,000 Unseated Str Wt./Lbs. 40,000  
 Anchor Length 66' Wt. Set Lbs. 20,000 Wt. Pulled Loose/Lbs. 42,000  
 Top Packer Depth 3395 Tool Weight 3,000  
 Bottom Packer Depth 3400 Hole Size — 7 7/8"  Rubber Size — 6 3/4"   
 Total Depth 3466 Wt. Pipe Run      Drill Collar Run 125'  
 Mud Wt. 9.4 LCM TR Vis. 48 WL 7.2 Drill Pipe Size 4 1/2 XH Ft. Run       
 Blow Description IF - WEAK BUILT TO 4" IN ISI - NO BLOW  
FF - WEAK BUILT TO 4" IN FSI - NO BLOW

Recovery — Total Feet	GIP	Ft. in DC	Ft. in DP
<u>45'</u>		<u>125</u>	<u>100</u>
Rec. <u>180'</u>	Feet Of <u>MUDDY WATER</u>	%gas <u>    </u> %oil <u>    </u>	<u>65%</u> water <u>35%</u> mud
Rec. <u>    </u>	Feet Of <u>SALT WATER</u>	%gas <u>    </u> %oil <u>    </u>	%water <u>    </u> %mud <u>    </u>
Rec. <u>    </u>	Feet Of <u>    </u>	%gas <u>    </u> %oil <u>    </u>	%water <u>    </u> %mud <u>    </u>
Rec. <u>    </u>	Feet Of <u>    </u>	%gas <u>    </u> %oil <u>    </u>	%water <u>    </u> %mud <u>    </u>
Rec. <u>    </u>	Feet Of <u>    </u>	%gas <u>    </u> %oil <u>    </u>	%water <u>    </u> %mud <u>    </u>

BHT 106 °F Gravity      °API D@      °F Corrected Gravity      °API  
 RW .07 @ 96 °F Chlorides 80,000 ppm Recovery Chlorides 3,500 ppm System

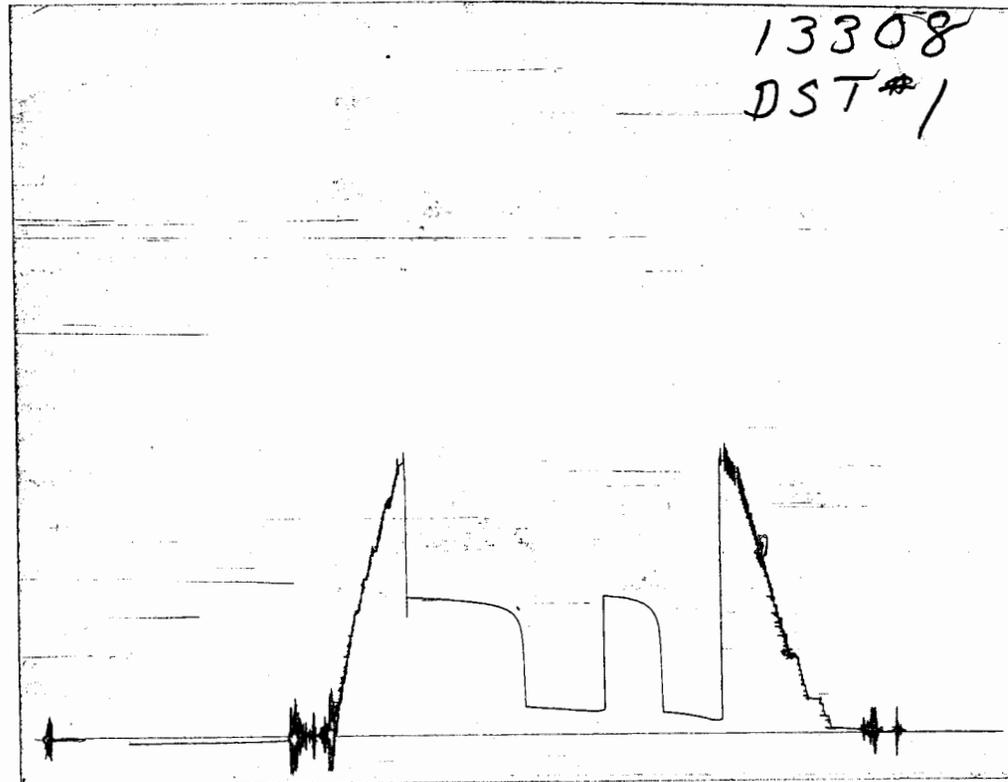
	AK-1	Alpine	PSI	Recorder No.	T-On Location
(A) Initial Hydrostatic Mud		<u>1673</u>		<u>3017</u>	<u>11:45</u>
(B) First Initial Flow Pressure		<u>22</u>		<u>3406</u>	<u>12:47</u> 9:15
(C) First Final Flow Pressure		<u>87</u>		<u>13308</u>	<u>14:51</u> 8:41
(D) Initial Shut-In Pressure		<u>843</u>		<u>3463</u>	<u>18:52</u>
(E) Second Initial Flow Pressure		<u>89</u>			<u>20:26</u>
(F) Second Final Flow Pressure		<u>126</u>			<u>21:00</u>
(G) Final Shut-in Pressure		<u>841</u>		<u>45</u>	Test <u>BOTTOM HOLE</u> 900
(Q) Final Hydrostatic Mud		<u>1642</u>		<u>45</u>	Jars <u>    </u>
				<u>60</u>	Safety Joint <u>    </u>
				<u>90</u>	Straddle <u>    </u>
					Circ. Sub <u>    </u>
					Sampler <u>    </u>
					Extra Packer <u>    </u>
					Elec. Rec. <u>150</u>
					Mileage <u>35</u>
					Other <u>1 hr 30</u>
					TOTAL PRICE \$ <u>915</u>

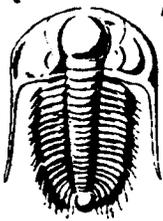
TRILOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE. OR FOR ANY LOSS SUFFERED OR SUSTAINED. DIRECTLY OR INDIRECTLY. THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By Todd S. Morgenstern  
 Our Representative John Schmidt

# CHART PAGE

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





# TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No 16407

## Test Ticket

Well Name & No. VINZANT #1 Test No. #2 Date 6-20-02  
 Company MAI OIL OPERATIONS INC. Zone Tested ARBUCKLE  
 Address PO BOX 33 RUSSELL, KS 67665 Elevation 2219 KB 2214 GL  
 Co. Rep / Geo. TODD MORGENSTERN Cont. MURFIN #8 Est. Ft. of Pay      Por.      %  
 Location: Sec. 21 Twp. 103 Rge. 20W Co. ROOKS State KS  
 No. of Copies      Distribution Sheet (Y, N)      Turnkey (Y, N)      Evaluation (Y, N)     

Interval Tested 3730 To 3821 Initial Str Wt./Lbs. 40,000 Unseated Str Wt./Lbs. 40,000  
 Anchor Length 91' Wt. Set Lbs. 20,000 Wt. Pulled Loose/Lbs. 45,000  
 Top Packer Depth 3725 Tool Weight 3300  
 Bottom Packer Depth 3730 Hole Size — 7 7/8" ✓ Rubber Size — 6 3/4" ✓  
 Total Depth 3821 Wt. Pipe Run      Drill Collar Run 125  
 Mud Wt. 9.4 LCM TR Vis. 50 WL 8.8 Drill Pipe Size 4 1/2 XH Ft. Run 3594  
 Blow Description IF - WEAK BUILT 2" IN FSI - NO BLOW  
FF - WEAK BUILT TO 2" IN FSI - NO BLOW

Recovery — Total Feet 160' GIP      Ft. in DC      Ft. in DP       
 Rec. 40 Feet Of C-G-OIL %gas 90% %oil      %water      %mud       
 Rec. 120' Feet Of O-C-MUD %gas 35% %oil      %water 65% %mud       
 Rec.      Feet Of      %gas      %oil      %water      %mud       
 Rec.      Feet Of      %gas      %oil      %water      %mud       
 Rec.      Feet Of      %gas      %oil      %water      %mud       
 BHT 109 °F Gravity 33 °API D@ 80 °F Corrected Gravity 31 °API  
 RW      @      °F Chlorides      ppm Recovery Chlorides 5,000 ppm System

	AK-1	Alpine	PSI	Recorder No.	T-On Location
(A) Initial Hydrostatic Mud		<u>1919</u>		<u>3017</u>	<u>22:45</u>
(B) First Initial Flow Pressure		<u>28</u>		(depth) <u>3734</u>	T-Started <u>23:28</u>
(C) First Final Flow Pressure		<u>72</u>		Recorder No. <u>13308</u>	T-Open <u>01:17</u>
(D) Initial Shut-In Pressure		<u>1101</u>		(depth) <u>3818</u>	T-Pulled <u>04:31</u>
(E) Second Initial Flow Pressure		<u>77</u>		Recorder No. <u>    </u>	T-Out <u>06:43</u>
(F) Second Final Flow Pressure		<u>87</u>		(depth) <u>    </u>	T-Off Location <u>08:00</u>
(G) Final Shut-in Pressure		<u>1095</u>		Initial Opening <u>45</u>	Test <u>BOTTOM HOLE 100</u>
(Q) Final Hydrostatic Mud		<u>1880</u>		Initial Shut-in <u>45</u>	Jars <u>    </u>

Final Flow      Safety Joint       
 Final Shut-in      Straddle       
 Circ. Sub       
 Sampler       
 Extra Packer       
 Elec. Rec. ✓ 150  
 Mileage 35  
 Other       
 TOTAL PRICE \$ 985

TRILOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE. OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT. OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By     

Our Representative John L. Schmidt

# CHART PAGE

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

