



## DRILL STEM TEST REPORT

Prepared For: **Palmer Oil Inc**

3118 N Cummings Rd  
Garden City, KS 67846

ATTN: Wyatt Urban

**Willis #23-8**

**23-32s-37w Stevens,KS**

Start Date: 2014.02.22 @ 12:25:05

End Date: 2014.02.22 @ 21:50:35

Job Ticket #: 56284                      DST #: 1

Trilobite Testing, Inc  
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**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Palmer Oil Inc  
 3118 N Cummings Rd  
 Garden City, KS 67846  
 ATTN: Wyatt Urban

**23-32s-37w Stevens,KS**

**Willis #23-8**

Job Ticket: 56284 **DST#: 1**

Test Start: 2014.02.22 @ 12:25:05

## GENERAL INFORMATION:

Formation: **St Louis**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 15:10:05  
 Time Test Ended: 21:50:35  
 Interval: **6325.00 ft (KB) To 6385.00 ft (KB) (TVD)**  
 Total Depth: 6385.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Shane McBride  
 Unit No: 55  
 Reference Elevations: 3122.00 ft (KB)  
 3110.00 ft (CF)  
 KB to GR/CF: 12.00 ft

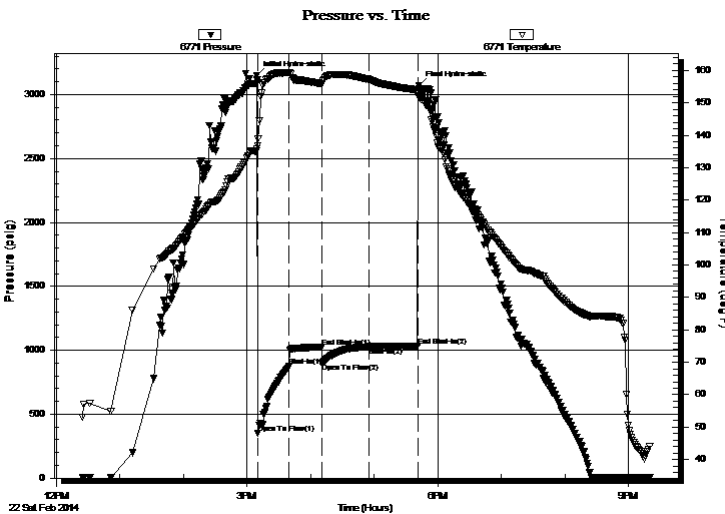
## Serial #: 6771

Inside

Press@RunDepth: 1027.79 psig @ 6326.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.22 End Date: 2014.02.22 Last Calib.: 2014.02.22  
 Start Time: 12:25:05 End Time: 21:19:35 Time On Btm: 2014.02.22 @ 15:09:20  
 Time Off Btm: 2014.02.22 @ 17:42:05

TEST COMMENT: 12' of fill on bottom . B.O.B. in 2 min.  
 No return  
 B.O.B. in 6 1/2 min.  
 No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3149.75	135.79	Initial Hydro-static
1	350.62	136.81	Open To Flow (1)
31	872.33	159.33	Shut-In(1)
62	1026.59	155.79	End Shut-In(1)
62	898.82	155.76	Open To Flow (2)
106	1027.79	157.21	Shut-In(2)
152	1032.57	153.91	End Shut-In(2)
153	3069.18	152.16	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1449.00	water 100%w	18.61
378.00	s m c w 15%m 85%w	5.30
315.00	m c w 40%m 60%w	4.42

## Gas Rates

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





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TESTING, INC**

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**TOOL DIAGRAM**

Palmer Oil Inc  
3118 N Cummings Rd  
Garden City, KS 67846  
ATTN: Wyatt Urban

**23-32s-37w Stevens,KS**  
**Willis #23-8**  
Job Ticket: 56284      **DST#: 1**  
Test Start: 2014.02.22 @ 12:25:05

**Tool Information**

Drill Pipe:	Length: 6129.00 ft	Diameter: 3.80 inches	Volume: 85.97 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: 188.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 130000.0 lb
			<u>Total Volume: 86.89 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 102000.0 lb
Depth to Top Packer:	6325.00 ft			Final 116000.0 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	88.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			6298.00	
Shut In Tool	5.00			6303.00	
Hydraulic tool	5.00			6308.00	
Jars	5.00			6313.00	
Safety Joint	3.00			6316.00	
Packer	5.00			6321.00	28.00      Bottom Of Top Packer
Packer	4.00			6325.00	
Stubb	1.00			6326.00	
Recorder	0.00	6771	Inside	6326.00	
Recorder	0.00	8844	Outside	6326.00	
Perforations	20.00			6346.00	
Change Over Sub	1.00			6347.00	
Drill Pipe	32.00			6379.00	
Change Over Sub	1.00			6380.00	
Bullnose	5.00			6385.00	60.00      Bottom Packers & Anchor

**Total Tool Length: 88.00**



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**FLUID SUMMARY**

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ATTN: Wyatt Urban

**23-32s-37w Stevens,KS**  
**Willis #23-8**  
Job Ticket: 56284      **DST#: 1**  
Test Start: 2014.02.22 @ 12:25:05

## 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: 50000 ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.19 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 2600.00 ppm		
Filter Cake: 1.00 inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1449.00	water 100%w	18.613
378.00	s m c w 15%m 85%w	5.302
315.00	m c w 40%m 60%w	4.419

Total Length: 2142.00 ft      Total Volume: 28.334 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: rw .199 @ 50\*f=50,000 chlor

Serial #: 6771

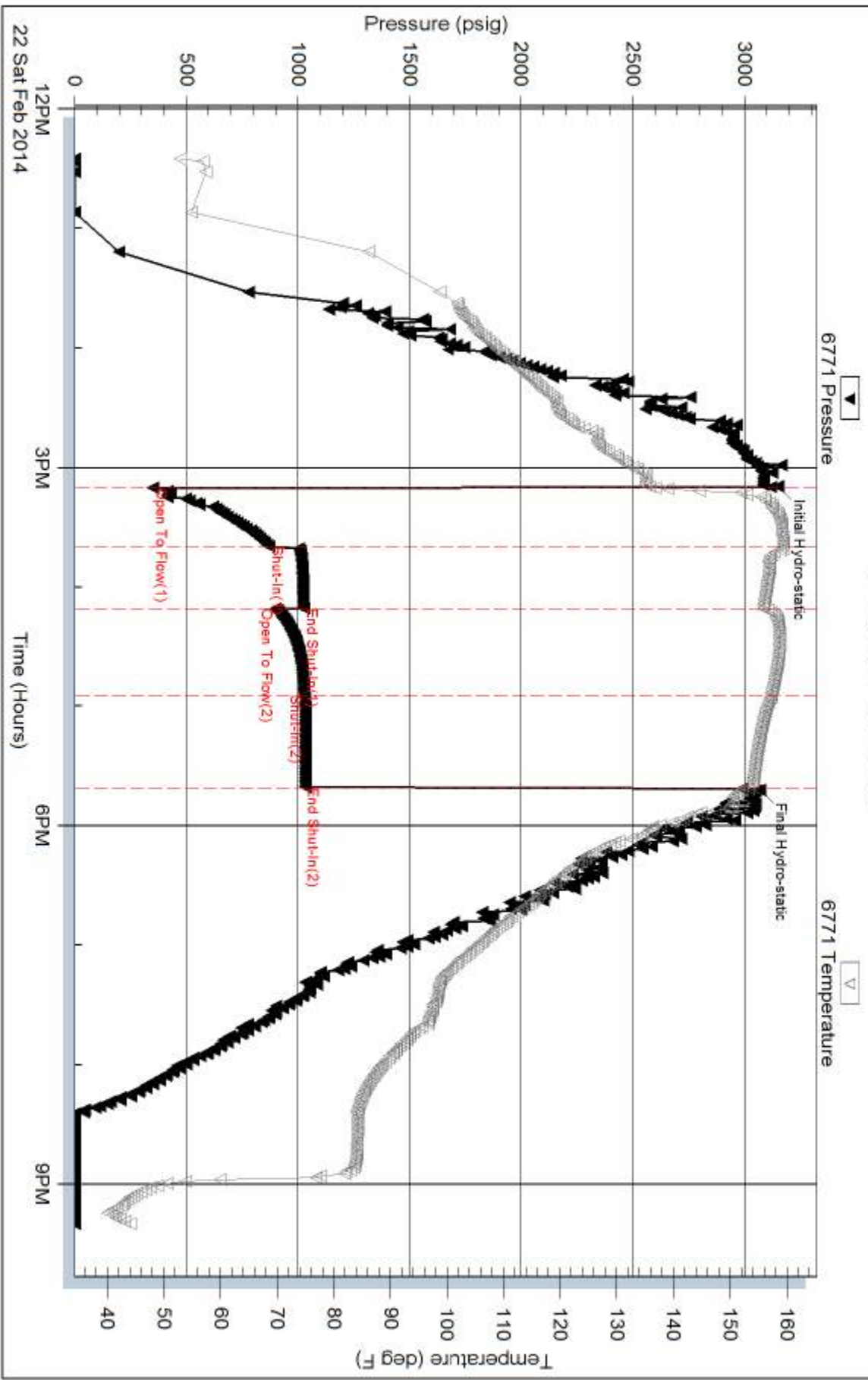
Inside

Palmer Oil Inc

Wells #23-8

DST Test Number: 1

### Pressure vs. Time

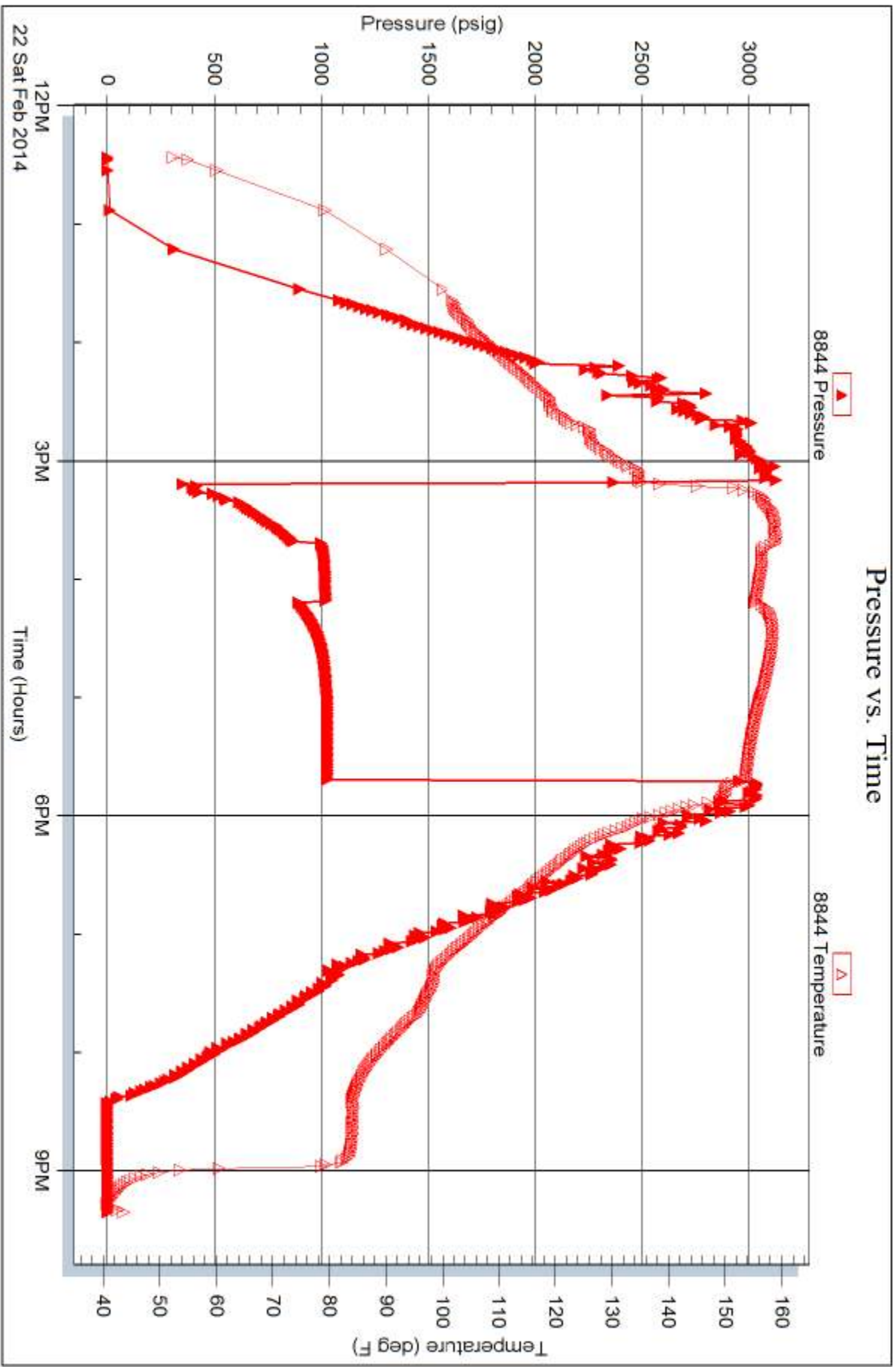


Serial #: 8844

Outside Palmer Oil Inc

Wells #23-8

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 56284

Printed: 2014.02.25 @ 16:36:50



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 56284

Well Name & No. Willis #23-8 Test No. #1 Date 2/22/14  
 Company Palmer Oil Inc Elevation 3122 KB 3110 GL  
 Address 3118 N. Cummings Rd, Garden City Ks  
 Co. Rep / Geo. Wyatt Urban Rig Duke #9  
 Location: Sec. 23 Twp. 32 Rge. 37 Co. Stevens State Ks

Interval Tested 6325 6385 Zone Tested St. Louis  
 Anchor Length 60 Drill Pipe Run 6129 Mud Wt. 9.2  
 Top Packer Depth 6320 Drill Collars Run 188' Vis 54  
 Bottom Packer Depth 6325 Wt. Pipe Run          WL 7.2  
 Total Depth 6385 Chlorides 2600 ppm System LCM #2 1/2

Blow Description (12' off fill on bottom.) B.O.B. in 2 min  
No return  
B.O.B. in 6 1/2 min.  
No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>315</u>	<u>new</u>				
<u>370</u>	<u>smew</u>				
<u>1449</u>	<u>water</u>				

Rec Total 2142' BHT 159° Gravity          API RW .199 @ 50° F Chlorides 50,000 ppm

(A) Initial Hydrostatic <u>3149</u>	<input checked="" type="checkbox"/> Test <u>1450</u>	T-On Location <u>11:45</u>
(B) First Initial Flow <u>350</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:25</u>
(C) First Final Flow <u>872</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>15:10</u>
(D) Initial Shut-In <u>1026</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>17:40</u>
(E) Second Initial Flow <u>898</u>	<input type="checkbox"/> Hourly Standby <u>        </u>	T-Out <u>21:50</u>
(F) Second Final Flow <u>1027</u>	<input checked="" type="checkbox"/> Mileage <u>222</u> <u>344.10</u>	Comments <u>        </u>
(G) Final Shut-In <u>1032</u>	<input type="checkbox"/> Sampler <u>        </u>	
(H) Final Hydrostatic <u>3069</u>	<input type="checkbox"/> Straddle <u>        </u>	<input type="checkbox"/> Ruined Shale Packer <u>        </u>
	<input type="checkbox"/> Shale Packer <u>        </u>	<input type="checkbox"/> Ruined Packer <u>        </u>
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer <u>        </u>	<input type="checkbox"/> Extra Copies <u>        </u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder <u>        </u>	Sub Total <u>0</u>
Final Flow <u>45</u>	<input type="checkbox"/> Day Standby <u>        </u>	Total <u>2119.10</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Accessibility <u>        </u>	MP/DST Disc't <u>        </u>
	Sub Total <u>2119.10</u>	

Approved By          Our Representative

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