



DRILL STEM TEST REPORT

Prepared For: **Murfin Drlg. Co., Inc.**

250 N. Water Ste. 300
Wichita, KS 67202-1216

ATTN: Tim Pierce

Pound #1-3

3-23s-12w Stafford,KS

Start Date: 2014.06.12 @ 10:16:27

End Date: 2014.06.12 @ 18:57:27

Job Ticket #: 51989 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
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Printed: 2014.06.13 @ 10:16:26



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TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg. Co., Inc.
250 N. Water Ste. 300
Wichita, KS 67202-1216
ATTN: Tim Pierce

3-23s-12w Stafford, KS

Pound #1-3

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DST#: 1

Test Start: 2014.06.12 @ 10:16:27

GENERAL INFORMATION:

Formation: **Viola**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:43:57
 Time Test Ended: 18:57:27
 Interval: **3552.00 ft (KB) To 3737.00 ft (KB) (TVD)**
 Total Depth: 3737.00 ft (KB) (TVD)
 Hole Diameter: 8.75 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ryan Reynolds
 Unit No: 68
 Reference Elevations: 1841.00 ft (KB)
 1830.00 ft (CF)
 KB to GR/CF: 11.00 ft

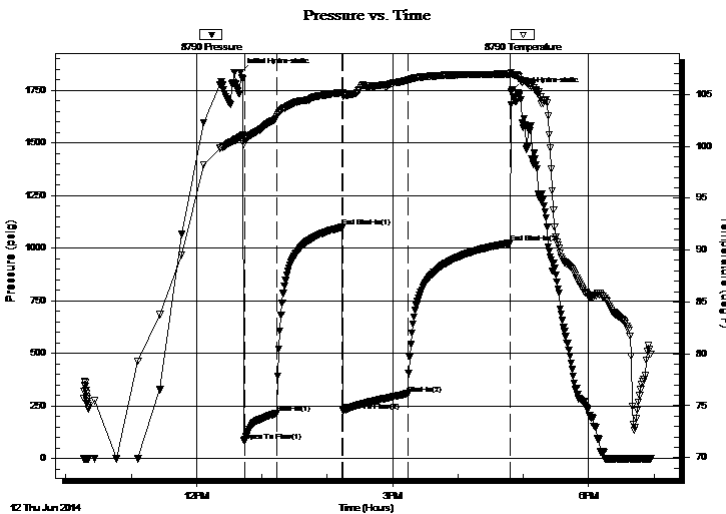
Serial #: 8790

Inside

Press@RunDepth: 308.16 psig @ 3569.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.06.12 End Date: 2014.06.12 Last Calib.: 2014.06.12
 Start Time: 10:16:32 End Time: 18:57:27 Time On Btm: 2014.06.12 @ 12:40:42
 Time Off Btm: 2014.06.12 @ 16:48:57

TEST COMMENT: IF: Strong blow . BOB @ 12 min.
 IS: No blow
 FF: Fair blow . surf. - 4"
 FS: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1833.25	100.94	Initial Hydro-static
4	80.62	100.73	Open To Flow (1)
33	215.20	102.83	Shut-In(1)
94	1099.35	105.16	End Shut-In(1)
94	226.97	104.83	Open To Flow (2)
154	308.16	106.35	Shut-In(2)
247	1023.75	106.96	End Shut-In(2)
249	1743.92	107.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	OGWCM 1%o, 5%g, 5%w, 89%m	0.59
495.00	OGCM 6%o, 25%g, 69%m	5.52
0.00	120' GIP	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (m ³ /d)



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TOOL DIAGRAM

Murfin Drlg. Co., Inc.

3-23s-12w Stafford,KS

250 N. Water Ste. 300
Wichita, KS 67202-1216

Pound #1-3

Job Ticket: 51989

DST#: 1

ATTN: Tim Pierce

Test Start: 2014.06.12 @ 10:16:27

Tool Information

Drill Pipe:	Length: 3268.00 ft	Diameter: 3.80 inches	Volume: 45.84 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 47.20 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	3552.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	185.00 ft			
Tool Length:	212.00 ft			
Number of Packers:	2	Diameter: 8.00 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3526.00	
Shut In Tool	5.00			3531.00	
Hydraulic tool	5.00			3536.00	
Jars	5.00			3541.00	
Safety Joint	2.00			3543.00	
Packer	5.00			3548.00	27.00 Bottom Of Top Packer
Packer	4.00			3552.00	
Stubb	1.00			3553.00	
Perforations	15.00			3568.00	
Change Over Sub	1.00			3569.00	
Recorder	0.00	8790	Inside	3569.00	
Recorder	0.00	8792	Outside	3569.00	
Drill Pipe	159.00			3728.00	
Change Over Sub	1.00			3729.00	
Perforations	5.00			3734.00	
Bullnose	3.00			3737.00	185.00 Bottom Packers & Anchor
Total Tool Length:	212.00				



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FLUID SUMMARY

Murfin Drlg. Co., Inc.

3-23s-12w Stafford,KS

250 N. Water Ste. 300
Wichita, KS 67202-1216

Pound #1-3

Job Ticket: 51989

DST#: 1

ATTN: Tim Pierce

Test Start: 2014.06.12 @ 10:16:27

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 58.00 sec/qt
Water Loss: 13.59 in³
Resistivity: ohm.m
Salinity: 11800.00 ppm
Filter Cake: 0.02 inches

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

Oil API: deg API
Water Salinity: 29000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	OGWCM 1%o, 5%g, 5%w, 89%m	0.590
495.00	OGCM 6%o, 25%g, 69%m	5.522
0.00	120' GIP	0.000

Total Length: 615.00 ft Total Volume: 6.112 bbl

Num Fluid Samples: 0

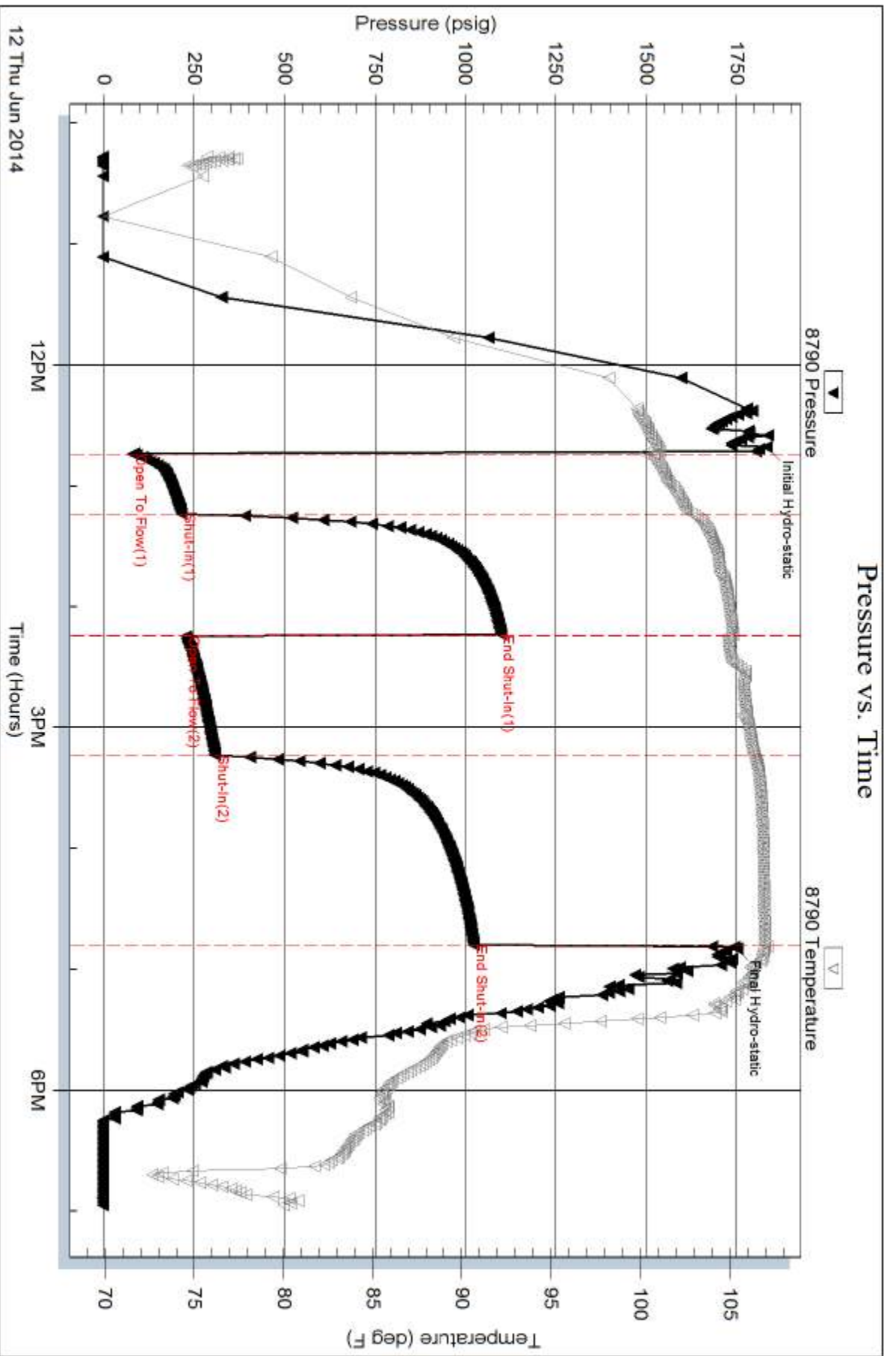
Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

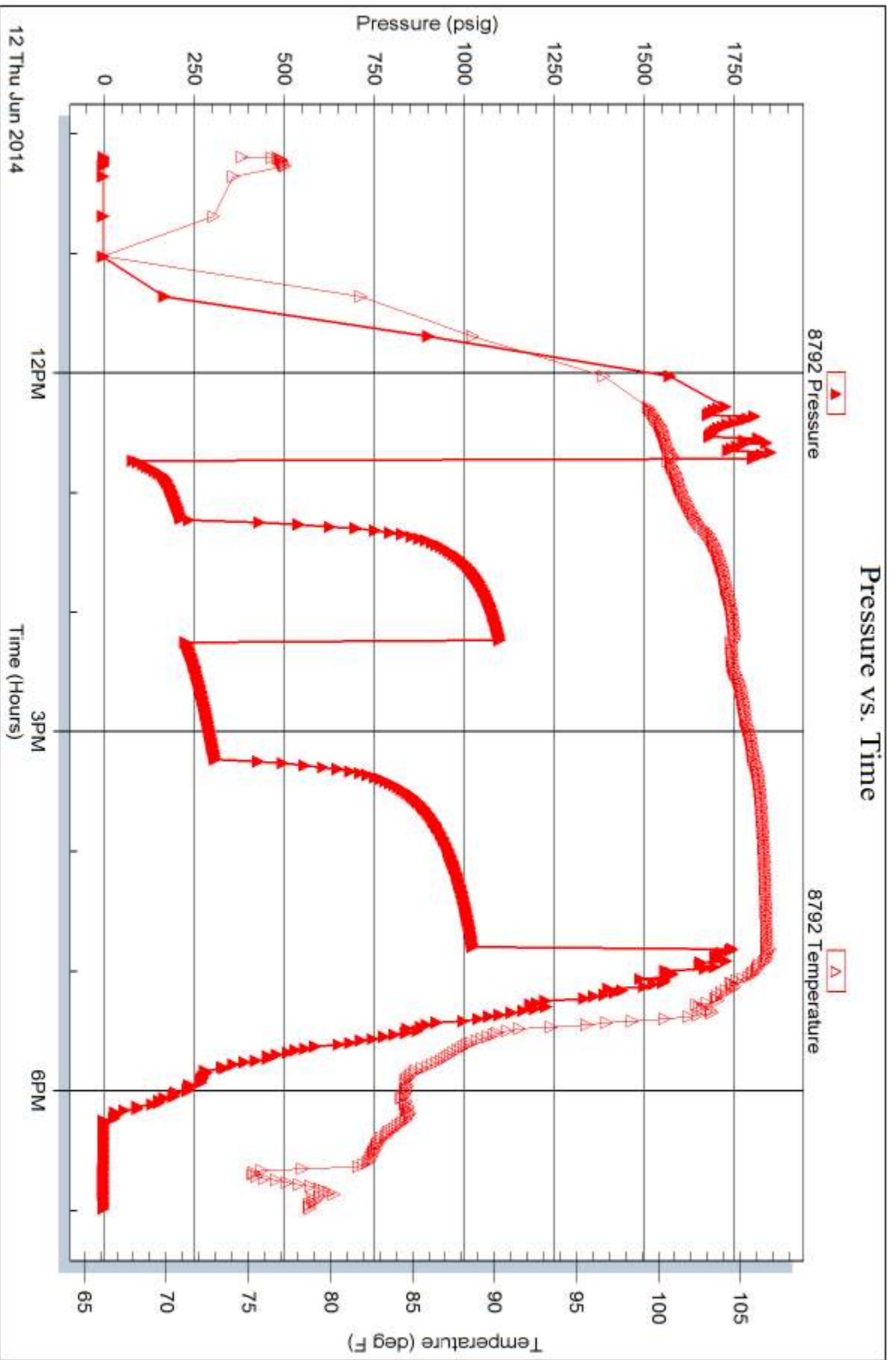


Serial #: 8792

Outside Murfin Drtg. Co., Inc.

Round #1-3

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 51989

Printed: 2014.06.13 @ 10:16:27



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51989

Well Name & No. Pound 1-3 Test No. 1 Date 6-12-14
 Company Murfin Drilling Co., Inc. Elevation 1841 KB 1830 GL
 Address 250 N. Water Ste. 300 Wichita, KS 67202-1216
 Co. Rep / Geo. Tim Pierce Rig Murfin 21
 Location: Sec. 3 Twp. 23s. Rge. 12w Co. Stafford State KS

Interval Tested 3552-3737 Zone Tested Viola
 Anchor Length 185 Drill Pipe Run 3268 Mud Wt. 9.3
 Top Packer Depth 3547 Drill Collars Run 276 Vis 58
 Bottom Packer Depth 3552 Wt. Pipe Run Ø WL 13.6
 Total Depth 3737 Chlorides 11,800 ppm System LCM 1
 Blow Description IF: Strong blow. BOB @ 12 min. ISI: No blow
FF: Fair blow, surf - 4" FSI: No blow.

Rec	Feet of	%gas	%oil	%water	%mud
<u>120</u>	<u>GIP</u>				
<u>495</u>	<u>GOCM</u>	<u>25</u>	<u>6</u>	<u>69</u>	
<u>120</u>	<u>GOWCM</u>	<u>5</u>	<u>1</u>	<u>89</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 615 BHT 107 Gravity N/L API RW 23 @ 73 °F Chlorides 29000 ppm

(A) Initial Hydrostatic <u>1833</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0845</u>
(B) First Initial Flow <u>81</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1016</u>
(C) First Final Flow <u>215</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1244</u>
(D) Initial Shut-In <u>1099</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1645</u>
(E) Second Initial Flow <u>227</u>	<input checked="" type="checkbox"/> Hourly Standby <u>1 hour</u>	T-Out <u>1857</u>
(F) Second Final Flow <u>308</u>	<input checked="" type="checkbox"/> Mileage <u>70</u> <u>108.50</u>	Comments <u>Charge \$1</u>
(G) Final Shut-In <u>1024</u>	<input type="checkbox"/> Sampler	<u>Non Standard hole</u>
(H) Final Hydrostatic <u>1744</u>	<input type="checkbox"/> Straddle	<u>size (8 3/4")</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer <u>8 3/4" 500</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Total <u>2083.50</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>2083.50</u>	

Approved By Tim Pierce Our Representative Ryan Reynolds

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