



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water
Suite 300
Wichita, KS 67202

ATTN: Tom Funk

#1-6 Ottley

6-13s-32w Logan,KS

Start Date: 2012.01.08 @ 12:29:00

End Date: 2012.01.08 @ 20:48:50

Job Ticket #: 45378 DST #: 1

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

Printed: 2012.01.12 @ 12:14:50



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N. Water
Suite 300
Wichita, KS 67202
ATTN: Tom Funk

6-13s-32w Logan, KS

#1-6 Ottley

Job Ticket: 45378

DST#: 1

Test Start: 2012.01.08 @ 12:29:00

GENERAL INFORMATION:

Formation: **LKC 'H-K'**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:43:30
 Time Test Ended: 20:48:50
 Interval: **4171.00 ft (KB) To 4285.00 ft (KB) (TVD)**
 Total Depth: 4285.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Chuck Smith
 Unit No: 37
 Reference Elevations: 3022.00 ft (KB)
 3009.00 ft (CF)
 KB to GR/CF: 13.00 ft

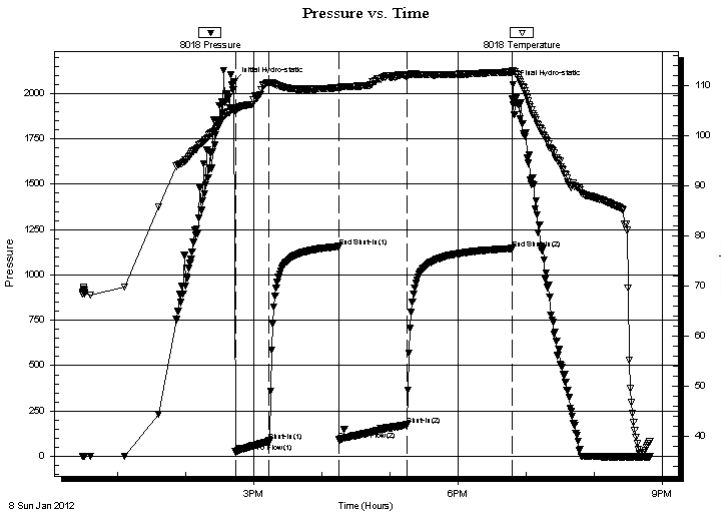
Serial #: 8018

Inside

Press @ Run Depth: 173.66 psig @ 4176.00 ft (KB)
 Start Date: 2012.01.08 End Date: 2012.01.08
 Start Time: 12:29:02 End Time: 20:48:49
 Capacity: 8000.00 psig
 Last Calib.: 2012.01.08
 Time On Btm: 2012.01.08 @ 14:42:30
 Time Off Btm: 2012.01.08 @ 18:48:09

TEST COMMENT: 4 1/2" Blow .
 No return.
 5" Blow .
 No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2064.65	105.14	Initial Hydro-static
1	25.16	104.86	Open To Flow (1)
31	82.15	110.38	Shut-In(1)
92	1156.28	109.50	End Shut-In(1)
93	90.99	109.26	Open To Flow (2)
153	173.66	111.86	Shut-In(2)
245	1145.84	112.64	End Shut-In(2)
246	2049.31	112.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
320.00	SOCM 1 to 99m	1.57

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.
250 N. Water
Suite 300
Wichita, KS 67202
ATTN: Tom Funk

6-13s-32w Logan, KS
#1-6 Ottley
Job Ticket: 45378
Test Start: 2012.01.08 @ 12:29:00

DST#: 1

Tool Information

Drill Pipe:	Length: 3596.00 ft	Diameter: 3.80 inches	Volume: 50.44 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: 550.00 ft	Diameter: 2.25 inches	Volume: 2.70 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 53.14 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	2.50 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4171.00 ft			Final 82000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	114.00 ft			
Tool Length:	141.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4144.50	
Shut In Tool	5.00			4149.50	
Hydraulic tool	5.00			4154.50	
Jars	5.00			4159.50	
Safety Joint	2.50			4162.00	
Packer	5.00			4167.00	27.50 Bottom Of Top Packer
Packer	4.00			4171.00	
Stubb	1.00			4172.00	
Perforations	4.00			4176.00	
Recorder	0.00	8018	Inside	4176.00	
Recorder	0.00	6751	Outside	4176.00	
Perforations	10.00			4186.00	
Change Over Sub	1.00			4187.00	
Drill Pipe	94.00			4281.00	
Change Over Sub	1.00			4282.00	
Bullnose	3.00			4285.00	114.00 Bottom Packers & Anchor
Total Tool Length:	141.50				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.
250 N. Water
Suite 300
Wichita, KS 67202
ATTN: Tom Funk

6-13s-32w Logan, KS
#1-6 Ottley
Job Ticket: 45378
Test Start: 2012.01.08 @ 12:29:00

DST#: 1

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: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2500.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
320.00	SOCM 1o 99m	1.574

Total Length: 320.00 ft Total Volume: 1.574 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

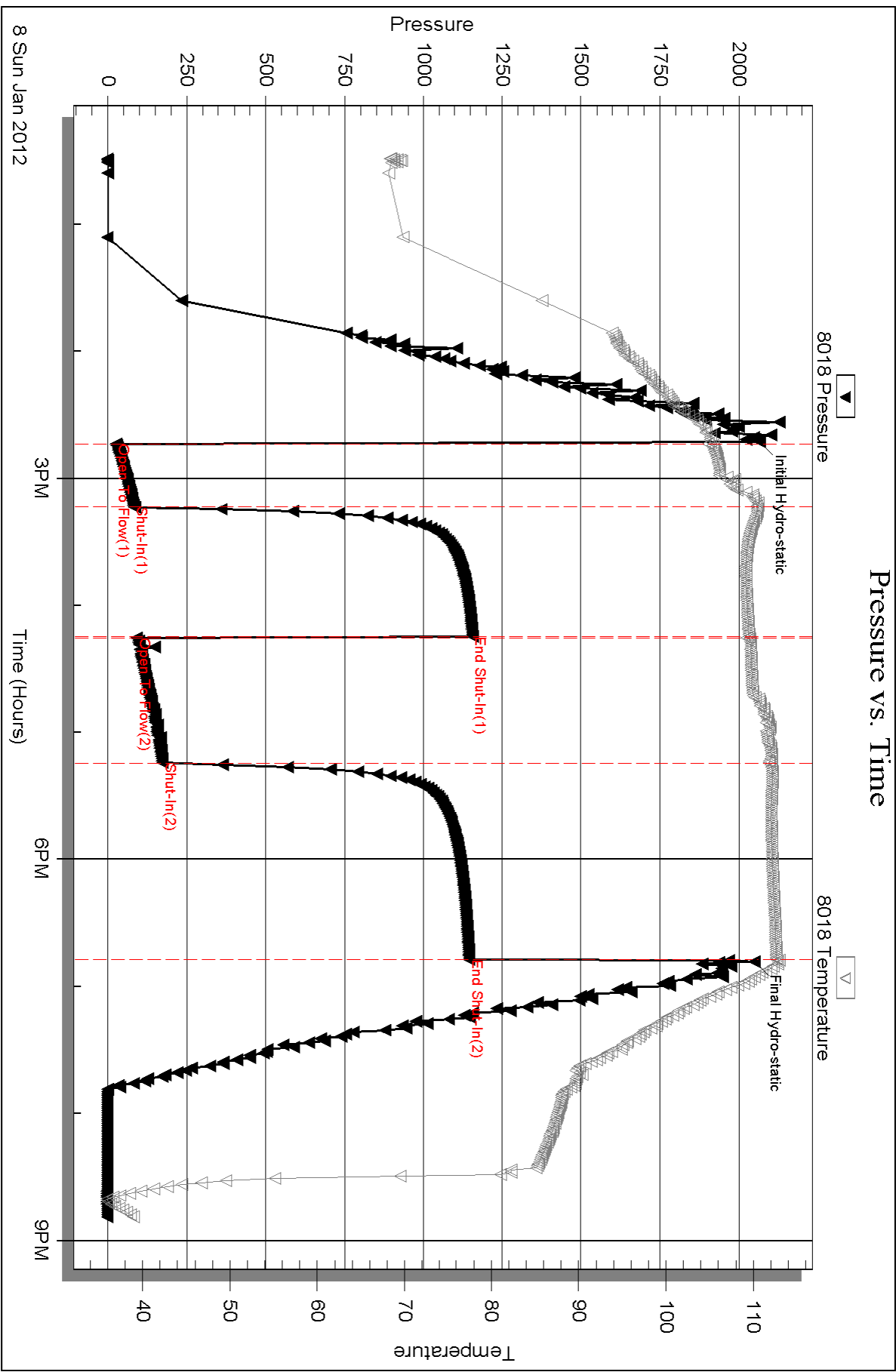
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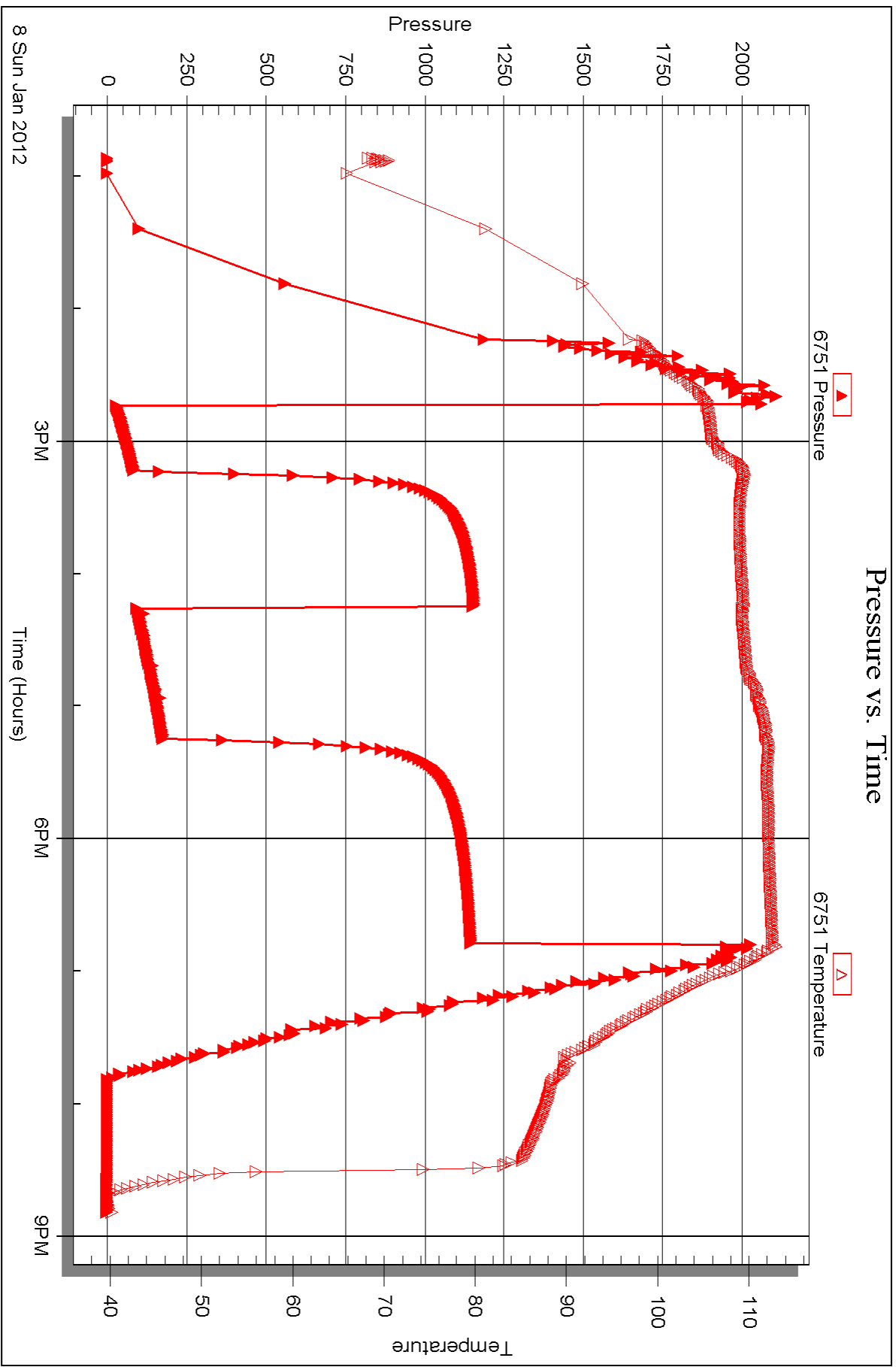
Inside

Murfin Drilling Co.

#1-6 Otley

DST Test Number: 1







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water
Suite 300
Wichita, KS 67202

ATTN: Tom Funk

#1-6 Ottley

6-13s-32w Logan,KS

Start Date: 2012.01.09 @ 22:05:00

End Date: 2012.01.10 @ 05:17:20

Job Ticket #: 45379 DST #: 2

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

Printed: 2012.01.12 @ 12:14:11



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.

6-13s-32w Logan, KS

250 N. Water
Suite 300
Wichita, KS 67202
ATTN: Tom Funk

#1-6 Ottley

Job Ticket: 45379

DST#: 2

Test Start: 2012.01.09 @ 22:05:00

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:43:50

Time Test Ended: 05:17:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 37

Interval: 4563.00 ft (KB) To 4618.00 ft (KB) (TVD)

Reference Elevations: 3022.00 ft (KB)

Total Depth: 4618.00 ft (KB) (TVD)

3009.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 8018 Inside

Press @ Run Depth: 17.72 psig @ 4568.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.01.09

End Date: 2012.01.10

Last Calib.: 2012.01.10

Start Time: 22:05:02

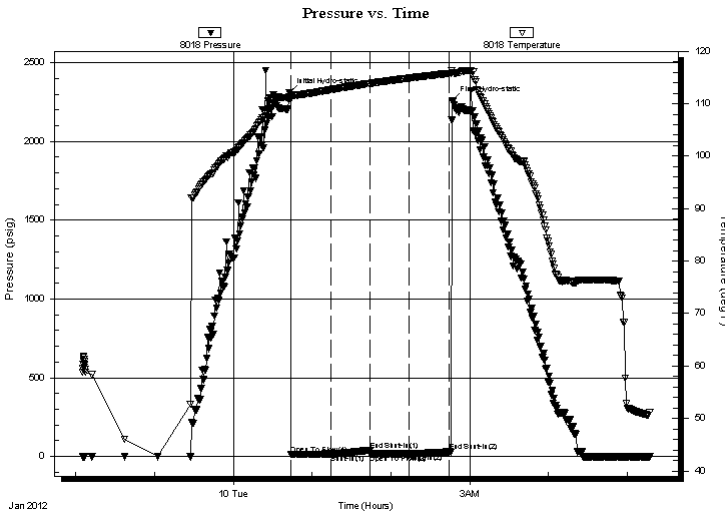
End Time: 05:17:19

Time On Btm: 2012.01.10 @ 00:42:30

Time Off Btm: 2012.01.10 @ 02:46:50

TEST COMMENT: 1/4" Blow .
No return.
No blow .
No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2309.18	111.26	Initial Hydro-static
2	14.36	110.72	Open To Flow (1)
32	15.45	112.65	Shut-In(1)
61	41.40	113.85	End Shut-In(1)
62	16.69	113.85	Open To Flow (2)
92	17.72	114.87	Shut-In(2)
122	30.81	115.77	End Shut-In(2)
125	2260.54	115.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	M100m	0.02

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

6-13s-32w Logan, KS

250 N. Water
Suite 300
Wichita, KS 67202
ATTN: Tom Funk

#1-6 Ottley

Job Ticket: 45379

DST#: 2

Test Start: 2012.01.09 @ 22:05:00

GENERAL INFORMATION:

Formation: **Johnson**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 00:43:50
 Tester: Chuck Smith
 Time Test Ended: 05:17:20
 Unit No: 37
 Interval: **4563.00 ft (KB) To 4618.00 ft (KB) (TVD)**
 Reference Elevations: 3022.00 ft (KB)
 Total Depth: 4618.00 ft (KB) (TVD)
 3009.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Good
 KB to GR/CF: 13.00 ft

Serial #: 6751

Outside

Press @ Run Depth: psig @ 4568.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.01.09

End Date: 2012.01.10

Last Calib.: 2012.01.10

Start Time: 22:05:02

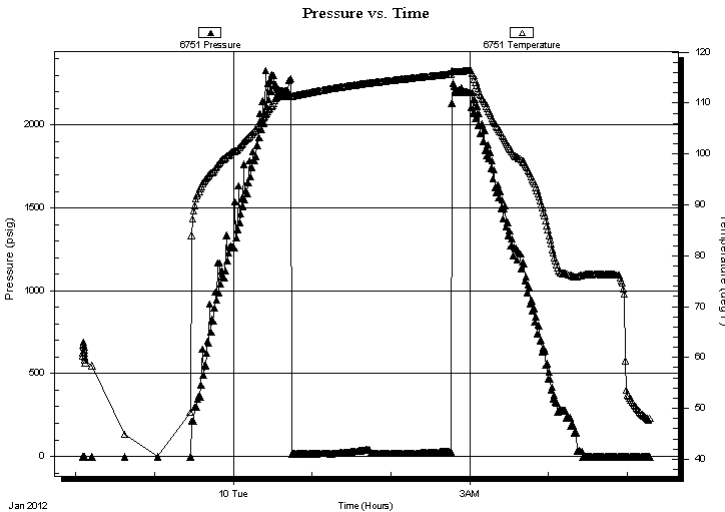
End Time: 05:17:19

Time On Btm:

Time Off Btm:

TEST COMMENT: 1/4" Blow .
 No return.
 No blow .
 No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
5.00	M100m	0.02

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

6-13s-32w Logan, KS

250 N. Water
Suite 300
Wichita, KS 67202
ATTN: Tom Funk

#1-6 Ottley

Job Ticket: 45379

DST#: 2

Test Start: 2012.01.09 @ 22:05:00

Tool Information

Drill Pipe:	Length: 4004.00 ft	Diameter: 3.80 inches	Volume: 56.17 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: 550.00 ft	Diameter: 2.25 inches	Volume: 2.70 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 58.87 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.50 ft			String Weight: Initial 84000.00 lb
Depth to Top Packer:	4563.00 ft			Final 84000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.00 ft			
Tool Length:	82.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4536.50	
Shut In Tool	5.00			4541.50	
Hydraulic tool	5.00			4546.50	
Jars	5.00			4551.50	
Safety Joint	2.50			4554.00	
Packer	5.00			4559.00	27.50 Bottom Of Top Packer
Packer	4.00			4563.00	
Stubb	1.00			4564.00	
Perforations	4.00			4568.00	
Recorder	0.00	8018	Inside	4568.00	
Recorder	0.00	6751	Outside	4568.00	
Perforations	14.00			4582.00	
Change Over Sub	1.00			4583.00	
Drill Pipe	31.00			4614.00	
Change Over Sub	1.00			4615.00	
Bullnose	3.00			4618.00	55.00 Bottom Packers & Anchor
Total Tool Length:	82.50				



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TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

6-13s-32w Logan,KS

250 N.Water
Suite 300
Wichita, KS 67202
ATTN: Tom Funk

#1-6 Ottley

Job Ticket: 45379

DST#: 2

Test Start: 2012.01.09 @ 22:05:00

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	M100m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

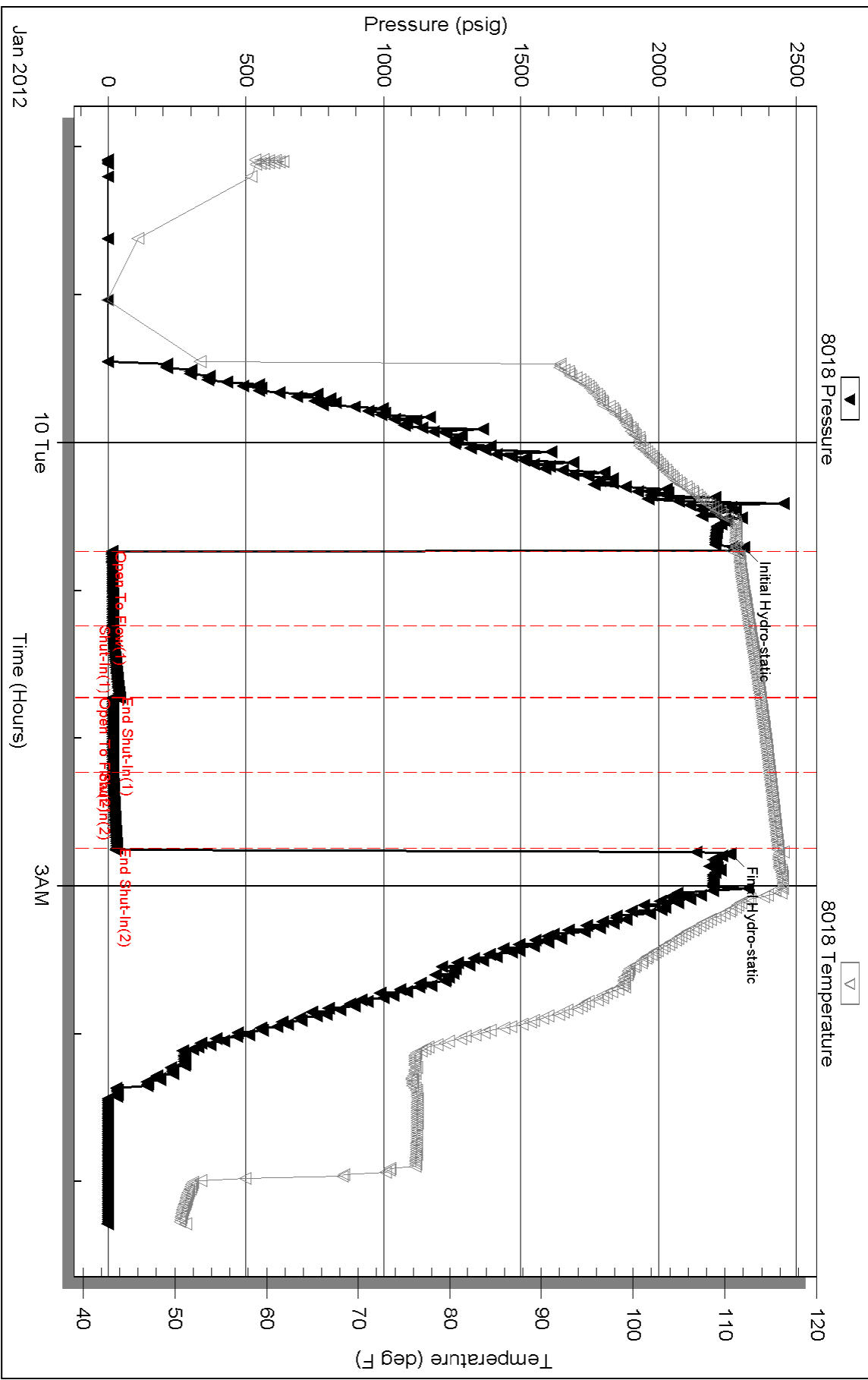
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

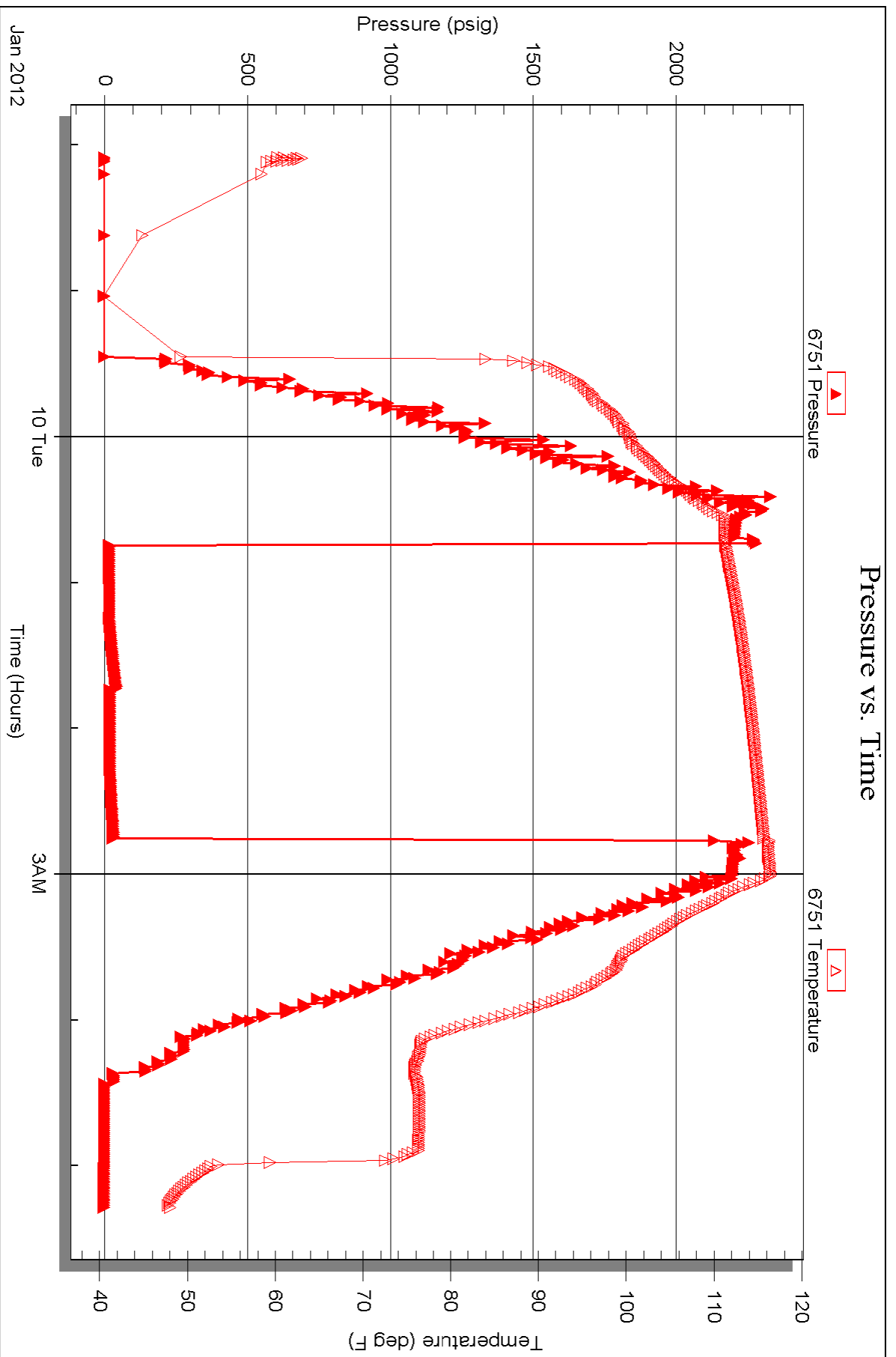


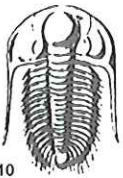
Serial #: 6751

Outside Murfin Drilling Co.

#1-6 Otley

DST Test Number: 2





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
JAN 12 2012
BY: _____

Test Ticket

NO. 45378

Well Name & No. #1-6 Ottley Test No. 1 Date 1-8-12
 Company Murfin Drilling Co. Elevation 3022 KB 3009 GL
 Address 250 N. Water Ste. 300 Wichita, KS 67202
 Co. Rep / Geo. Tom Funk Rig MDC #25
 Location: Sec. 6 Twp. 13s Rge. 32w Co. Logan State KS

Interval Tested 4171-4285 Zone Tested LKC H, I, J, K
 Anchor Length 114 Drill Pipe Run 3596 Mud Wt. 9.2
 Top Packer Depth 4167 Drill Collars Run 550 Vis 55
 Bottom Packer Depth 4171 Wt. Pipe Run 0 WL 5.6
 Total Depth 4285 Chlorides 2500 ppm System LCM 4
 Blow Description 4 1/2" Blow
No return.
5" Blow
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>320</u>	Feet of <u>SOCM</u>	%gas	<u>1</u> %oil	%water	<u>99</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 320 BHT 112 Gravity - API RW @ - °F Chlorides - ppm

(A) Initial Hydrostatic 2065 Test 1225- T-On Location 11:45
 (B) First Initial Flow 25 Jars 250- T-Started 12:29
 (C) First Final Flow 82 Safety Joint 75- T-Open 14:44
 (D) Initial Shut-In 1156 Circ Sub N/C T-Pulled 18:47
 (E) Second Initial Flow 91 Hourly Standby _____ T-Out 20:49
 (F) Second Final Flow 174 Mileage 8/RT 113.40 Comments _____
 (G) Final Shut-In 1146 Sampler _____
 (H) Final Hydrostatic 2049 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90

Sub Total 1663.40

Approved By [Signature] Our Representative Chuck Smith

Trilobite Testing Inc. shall not be liable for damaged 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.



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
JAN 12 2012
BY: _____

Test Ticket

NO. 45379

Well Name & No. #1-6 Orley Test No. 2 Date 1-9-12
 Company Murfin Drilling Co. Elevation 3022 KB 3009 GL
 Address 250 N. Water Ste. 300 Wichita, KS 67202
 Co. Rep / Geo. Tom Funk Rig MDC #25
 Location: Sec. 6 Twp. 13s Rge. 32w Co. Logan State KS

Interval Tested 4563-4618 Zone Tested Johnson
 Anchor Length 55 Drill Pipe Run 4004 Mud Wt. 9.3
 Top Packer Depth 4559 Drill Collars Run 550 Vis 53
 Bottom Packer Depth 4563 Wt. Pipe Run 0 WL 6.0
 Total Depth 4618 Chlorides 2200 ppm System LCM 2
 Blow Description 1/4" Blow
No return
No blow
No return

Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>5</u>	Feet of <u>M</u>	%gas	%oil	%water <u>100</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 116 Gravity - API RW @ - °F Chlorides - ppm

(A) Initial Hydrostatic 2309 Test 1225 T-On Location 21:15
 (B) First Initial Flow 14 Jars T-Started 22:05
 (C) First Final Flow 15 Safety Joint T-Open 00:44
 (D) Initial Shut-In 41 Circ Sub N/C T-Pulled 2:45
 (E) Second Initial Flow 17 Hourly Standby T-Out 5:17
 (F) Second Final Flow 18 Mileage 8/RTx2 226.80 ¹⁰² Comments Picked up tool 18:00
 (G) Final Shut-In 31 Sampler 1-10-12
 (H) Final Hydrostatic 2261 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Initial Open 30 Extra Recorder Sub Total 8
 Initial Shut-In 30 Day Standby Total 1451.80
 Final Flow 30 Accessibility MP/DST Disc't
 Final Shut-In 30 Sub Total 1451.80

Approved By [Signature] Our Representative Chuck Amos
 Trilobite Testing Inc. shall not be liable for damaged 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.