

TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling**

250 N Water STE 300
Wichita Ks, 67202

ATTN: Brad Rine

6 26S 24W Ford KS

Niedens 1-6

Start Date: 2010.07.07 @ 02:22:25

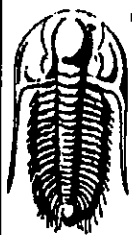
End Date: 2010.07.07 @ 13:57:55

Job Ticket #: 37368 DST #: 1

KCC
AUG 27 2010
CONFIDENTIAL

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AUG 27 2010
KCC WICHITA

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling

250 N Water STE 300
Wichita Ks, 67202

ATTN: Brad Rine

Niedens 1-6

6 26S 24W Ford KS

Job Ticket: 37368

DST#: 1

Test Start: 2010.07.07 @ 02:22:25

GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:45:40

Time Test Ended: 13:57:55

Interval: 3780.00 ft (KB) To 3831.00 ft (KB) (TVD)

Total Depth: 3831.00 ft (KB) (TVD)

Hole Diameter: 7.78 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole

Tester: Mike Siemp

Unit No: 28

Reference Elevations: 2532.00 ft (KB)

2522.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8677

Inside

Press@RunDepth: 233.02 psig @ 3782.00 ft (KB)

Start Date: 2010.07.07

End Date:

2010.07.07

Start Time: 02:22:26

End Time:

13:57:55

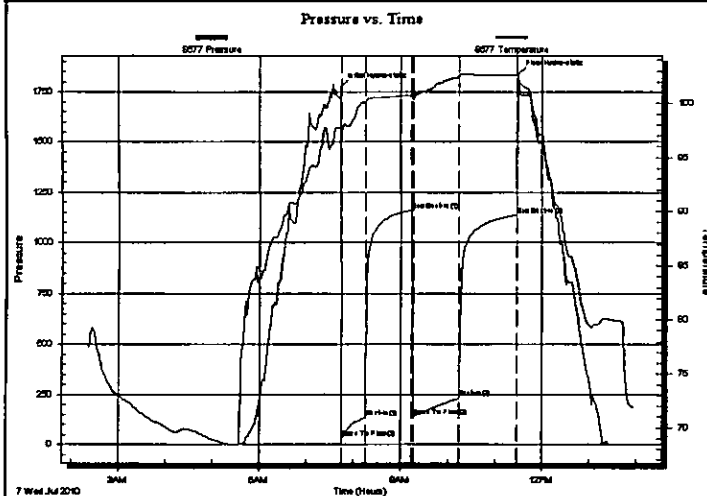
Capacity: 8000.00 psig

Last Calib.: 2010.07.07

Time On Btm: 2010.07.07 @ 07:44:25

Time Off Btm: 2010.07.07 @ 11:29:25

TEST COMMENT: IF- BOB in 18 min
IS- No blow back
FF- BOB in 30 min
FS- No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1771.88	97.76	Initial Hydro-static
2	34.38	97.27	Open To Flow (1)
32	133.58	100.08	Shut-In(1)
90	1160.23	100.76	End Shut-In(1)
92	137.14	100.35	Open To Flow (2)
150	233.02	102.47	Shut-In(2)
224	1136.43	102.61	End Shut-In(2)
225	1836.86	102.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
434.00	MCW95%w ater5% mud	4.42

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling

Niedens 1-6

250 N Water STE 300
Wichita Ks, 67202

6 26S 24W Ford KS

Job Ticket: 37368

DST#: 1

ATTN: Brad Rine

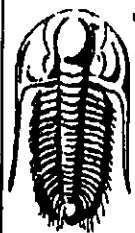
Test Start: 2010.07.07 @ 02:22:25

Tool Information

Drill Pipe:	Length: 3597.00 ft	Diameter: 3.80 inches	Volume: 50.46 bbl	Tool Weight: 2000.00 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: 183.00 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose: 60000.00 lb
			Total Volume: 51.36 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3780.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	51.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3754.00	
Shut In Tool	5.00			3759.00	
Hydraulic tool	5.00			3764.00	
Jars	5.00			3769.00	
Safety Joint	2.00			3771.00	
Packer	5.00			3776.00	27.00 Bottom Of Top Packer
Packer	4.00			3780.00	
Stubb	1.00			3781.00	
Perforations	1.00			3782.00	
Recorder	0.00	8677	Inside	3782.00	
Recorder	0.00	8678	Inside	3782.00	
Perforations	13.00			3795.00	
Change Over Sub	1.00			3796.00	
Drill Pipe	31.00			3827.00	
Change Over Sub	1.00			3828.00	
Bullnose	3.00			3831.00	51.00 Bottom Packers & Anchor
Total Tool Length:		78.00			



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling

Niedens 1-6

250 N Water STE 300
Wichita Ks, 67202

6 26S 24W Ford KS

Job Ticket: 37368

DST#: 1

ATTN: Brad Rine

Test Start: 2010.07.07 @ 02:22:25

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:

65000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 11000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
434.00	MCW95%w ater5%mud	4.421

Total Length: 434.00 ft

Total Volume: 4.421 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

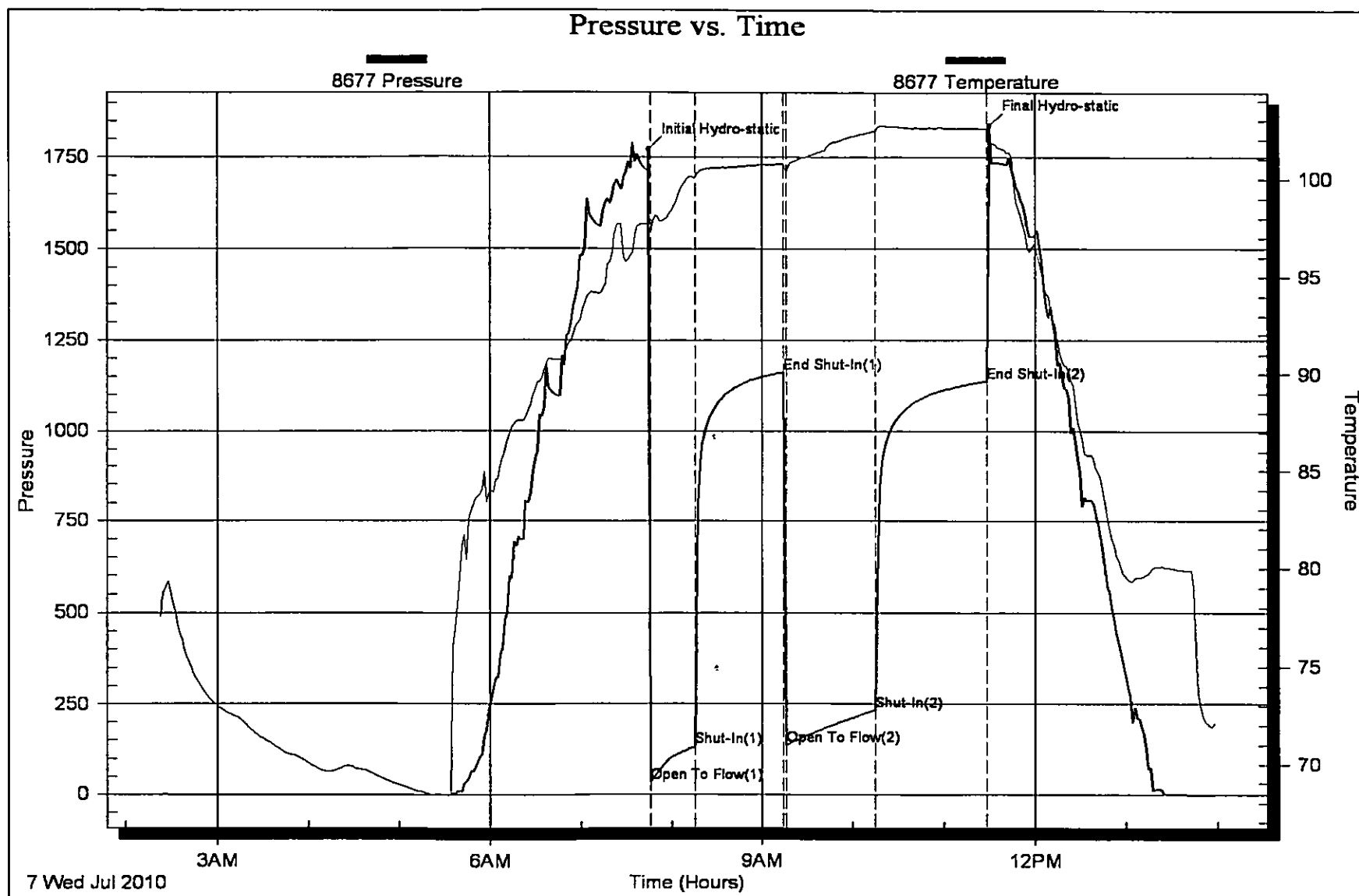
Recovery Comments: RW .17 @ 70F = 65000 chlorides

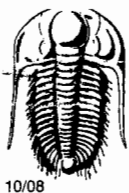
Serial #: 8677

Inside Murfin Drilling

6 26S 24W Ford KS

DST Test Number: 1





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 37368 14497

Well Name & No. Wieders 1-6 Test No. 1 Date 7-6-10
 Company Martin Drilling Elevation 2532 KB 2522 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Brad Rine Rig Martin 20
 Location: Sec. 6 Twp. 26S Rge. 24W Co. Ford State Ks

Interval Tested 3780-3831 Zone Tested Topeka
 Anchor Length 51' Drill Pipe Run 3557.00 Mud Wt. 7.0
 Top Packer Depth 3775 Drill Collars Run 183.00 Vis 50
 Bottom Packer Depth 3780 Wt. Pipe Run 2 WL 7.0
 Total Depth 3831 Chlorides 11000 ppm System LCM 2*
 Blow Description IF-BOBIN 18min
IS2-NO blow back
AF BOBIN 30min
FS-NO blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>434</u>	<u>MLW</u>			<u>95</u>	<u>5</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 434 BHT 102.61 Gravity _____ API RW .17 @ 70 ° F Chlorides 95000 ppm

(A) Initial Hydrostatic <u>1715.51</u>	☒ Test <u>1125.00</u>	T-On Location <u>1:30AM</u>
(B) First Initial Flow <u>34.38</u>	☒ Jars <u>250.00</u>	T-Started <u>5:00AM</u>
(C) First Final Flow <u>133.58</u>	☒ Safety Joint <u>75.00</u>	T-Open <u>7:50AM</u>
(D) Initial Shut-In <u>1100.23</u>	☐ Circ Sub _____	T-Pulled <u>11:20AM</u>
(E) Second Initial Flow <u>137.14</u>	☒ Hourly Standby <u>3hrs-300.00</u>	T-Out <u>2:00PM</u>
(F) Second Final Flow <u>233.02</u>	☒ Mileage <u>210.00 262.00</u>	Comments _____
(G) Final Shut-In <u>1136.43</u>	☐ Sampler _____	_____
(H) Final Hydrostatic <u>1734.33</u>	☐ Straddle _____	_____
Initial Open <u>30</u>	☒ Shale Packer <u>250.00</u>	☐ Ruined Shale Packer _____
Initial Shut-In <u>60</u>	☐ Extra Packer _____	☐ Ruined Packer _____
Final Flow <u>60</u>	☐ Extra Recorder _____	☐ Extra Copies _____
Final Shut-In <u>60</u>	☐ Day Standby _____	Sub Total _____
	☐ Accessibility _____	Total <u>2262.50 1962.50</u>
	Sub Total <u>2262.50 1962.50</u>	

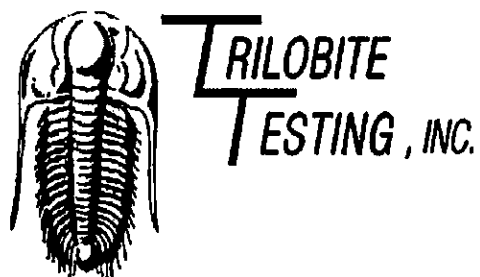
Approved By

Brad Rine

Our Representative

MSRP

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.



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling**
250 N Water STE 300
Wichita Ks, 67202

ATTN: Brad Rine

6 26S 24W Ford KS

Niedens 1-6

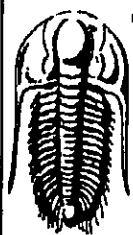
Start Date: 2010.07.11 @ 19:20:08

End Date: 2010.07.12 @ 02:13:53

Job Ticket #: 37369 DST #: 2

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

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TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling

250 N Water STE 300
Wichita Ks, 67202

ATTN: Brad Rine

Niedens 1-6

6 26S 24W Ford KS

Job Ticket: 37369

DST#: 2

Test Start: 2010.07.11 @ 19:20:08

GENERAL INFORMATION:

Formation: **Morrow**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 21:42:23

Time Test Ended: 02:13:53

Interval: **4966.00 ft (KB) To 5037.00 ft (KB) (TVD)**

Total Depth: **5037.00 ft (KB) (TVD)**

Hole Diameter: **7.78 inches** Hole Condition: **Fair**

Test Type: **Conventional Bottom Hole**

Tester: **Mike Slemp**

Unit No: **28**

Reference Elevations: **2532.00 ft (KB)**

2522.00 ft (CF)

KB to GR/CF: **10.00 ft**

Serial #: **8677**

Inside

Press@RunDepth: **123.44 psig @ 4968.00 ft (KB)**

Start Date: **2010.07.11**

End Date:

2010.07.12

Start Time: **19:20:09**

End Time:

02:13:53

Capacity: **8000.00 psig**

Last Calib.: **2010.07.12**

Time On Btm: **2010.07.11 @ 21:40:23**

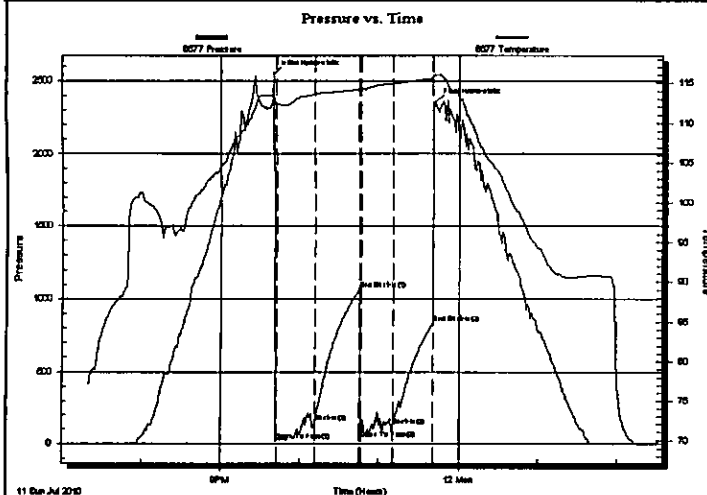
Time Off Btm: **2010.07.11 @ 23:42:23**

TEST COMMENT: IF- Weak surface blow , died after 15 min

IS- No blow back

FF- No blow

FSI- No blow back



PRESSURE SUMMARY

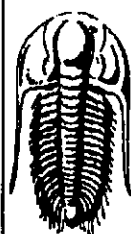
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2546.51	113.50	Initial Hydro-static
2	23.15	112.51	Open To Flow (1)
31	145.49	113.71	Shut-In(1)
65	1065.70	114.24	End Shut-In(1)
66	37.72	114.01	Open To Flow (2)
90	123.44	114.99	Shut-In(2)
120	832.24	115.61	End Shut-In(2)
122	2352.58	116.04	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	100% mud	0.05

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling

250 N Water STE 300
Wichita Ks, 67202

ATTN: Brad Rine

Niedens 1-6

6 26S 24W Ford KS

Job Ticket: 37369

DST#: 2

Test Start: 2010.07.11 @ 19:20:08

Tool Information

Drill Pipe:	Length:	4764.00 ft	Diameter:	3.80 inches	Volume:	66.83 bbl	Tool Weight:	2000.00 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:	183.00 ft	Diameter:	2.25 inches	Volume:	0.90 bbl	Weight to Pull Loose:	70000.00 lb
					Total Volume:	67.73 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		8.00 ft					String Weight: Initial	70000.00 lb
Depth to Top Packer:		4966.00 ft					Final	70000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		71.00 ft						
Tool Length:		98.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4940.00	
Shut In Tool	5.00			4945.00	
Hydraulic tool	5.00			4950.00	
Jars	5.00			4955.00	
Safety Joint	2.00			4957.00	
Packer	5.00		Fluid	4962.00	27.00 Bottom Of Top Packer
Packer	4.00			4966.00	
Stubb	1.00			4967.00	
Perforations	1.00			4968.00	
Recorder	0.00	8677	Inside	4968.00	
Recorder	0.00	8678	Inside	4968.00	
Perforations	33.00			5001.00	
Change Over Sub	1.00			5002.00	
Drill Pipe	31.00			5033.00	
Change Over Sub	1.00			5034.00	
Bullnose	3.00			5037.00	71.00 Bottom Packers & Anchor
Total Tool Length:	98.00				



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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling

Niedens 1-6

250 N Water STE 300
Wichita Ks, 67202

6 26S 24W Ford KS

Job Ticket: 37369

DST#: 2

ATTN: Brad Rine

Test Start: 2010.07.11 @ 19:20:08

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	100% mud	0.049

Total Length: 10.00 ft

Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

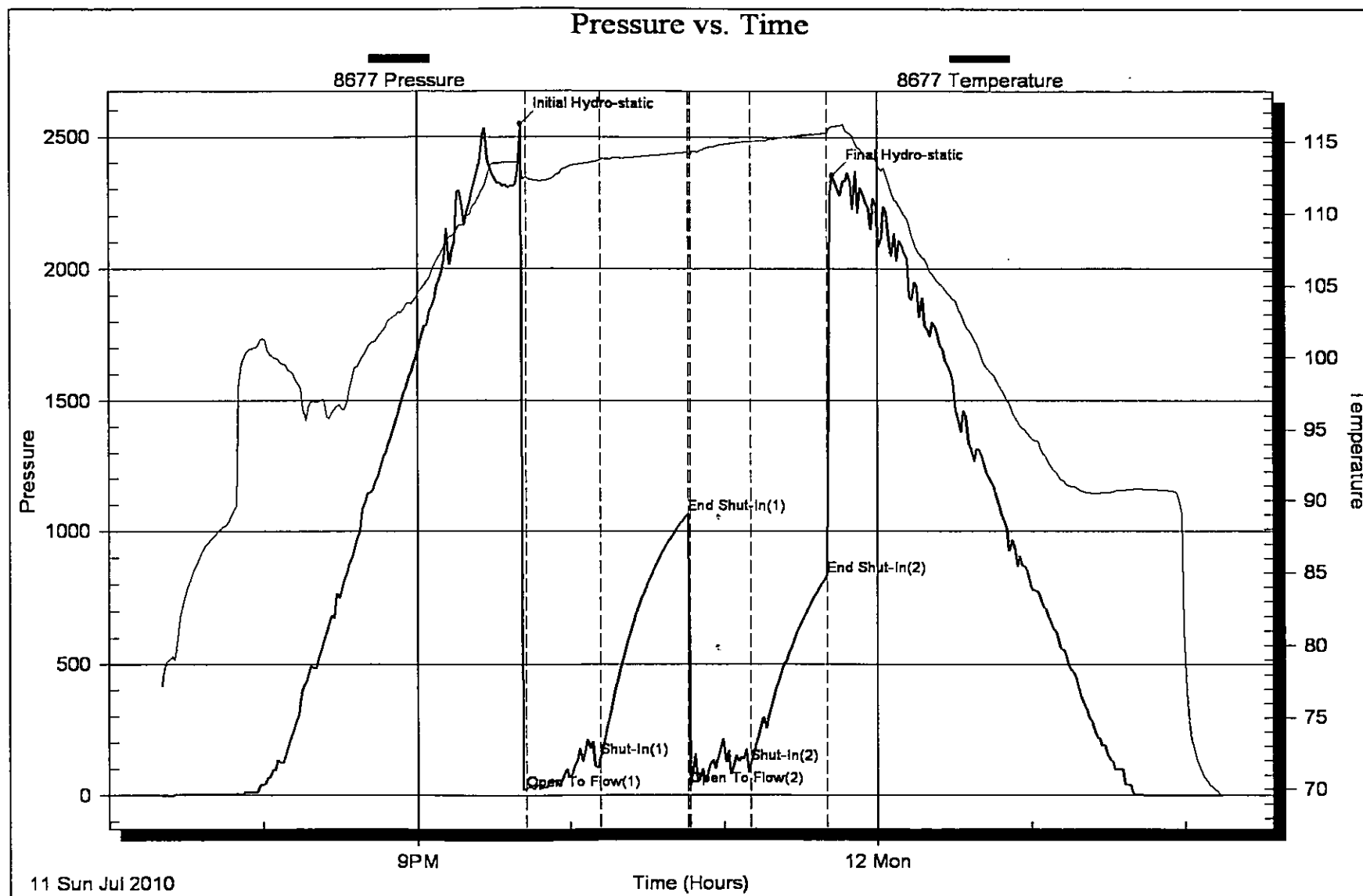
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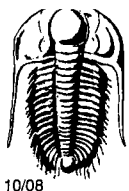
Serial #: 8677

Inside Murfin Drilling

6 26S 24W Ford KS

DST Test Number: 2





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 37369

JUL 15 2010

Well Name & No. Niedens 1-6 Test No. 2 Date 7-16-10
 Company Martin Drilling Elevation 2532 KB 2532 GL
 Address 250 N. Water St. 300 Wichita 67202
 Co. Rep / Geo. Brad Rine Rig Martin 20
 Location: Sec. 6 Twp. 23S Rge. 24W Co. Ford State Ks

Interval Tested 4966-5037 Zone Tested Morrow
 Anchor Length 71' Drill Pipe Run 4764.0' Mud Wt. 9.0
 Top Packer Depth 4961 Drill Collars Run 183.0 Vis SD
 Bottom Packer Depth 4966 Wt. Pipe Run 0 WL 68
 Total Depth 5037 Chlorides 1100 ppm System LCM 2#
 Blow Description IF - weak surface blow, died after 15 min
ISD - no blow back
FF - no blow
ESD - no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mod</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 115.61 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2546.51
 (B) First Initial Flow 23.15
 (C) First Final Flow 145.49
 (D) Initial Shut-In 1065.70
 (E) Second Initial Flow 37.72
 (F) Second Final Flow 123.44
 (G) Final Shut-In 832.24
 (H) Final Hydrostatic 2352.58

☒ Test 1325.00
☒ Jars 250.00
☒ Safety Joint 75.00
☐ Circ Sub _____
☐ Hourly Standby _____
☒ Mileage 210.00 mi 262.50
☐ Sampler _____
☐ Straddle _____
☐ Shale Packer _____
☐ Extra Packer _____
☐ Extra Recorder _____
☐ Day Standby _____
☐ Accessibility _____

T-On Location 6:15pm
 T-Started 7:30pm
 T-Open 9:42pm
 T-Pulled 11:42pm
 T-Out 2:00 AM
 Comments _____

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

☐ Ruined Shale Packer _____
☐ Ruined Packer _____
☐ Extra Copies _____
 Sub Total _____
 Total 1912.50

Approved By Brad Rine Our Representative [Signature]
 Sub Total 1912.50

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