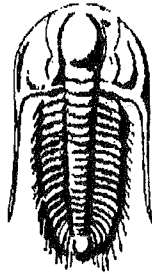


15-195-22614

10-13s-2lw



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **DNOC**

PO Box 372
Hays KS 67601

ATTN: Ron Nelson

10-13-21-Trego-Ks

Deutscher # 3-10

Start Date: 2009.06.29 @ 00:31:33

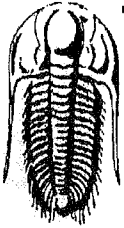
End Date: 2009.06.29 @ 05:47:03

Job Ticket #: 34315 DST #: 1

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

DNOC
 PO Box 372
 Hays KS 67601
 ATTN: Ron Nelson

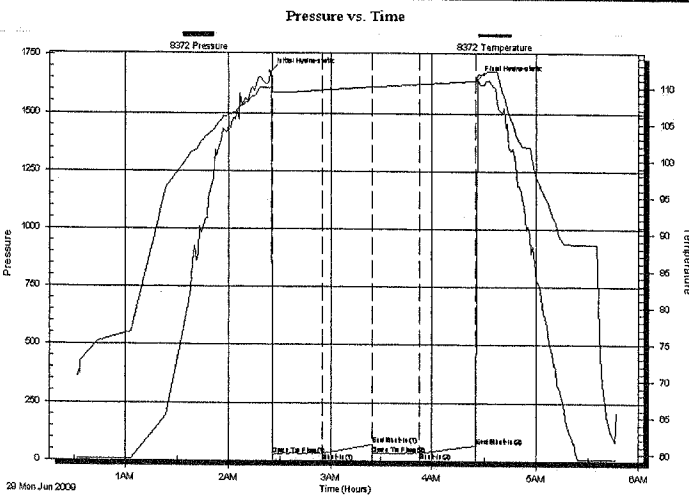
Deutscher # 3-10
10-13-21-Trego-Ks
 Job Ticket: 34315 **DST#: 1**
 Test Start: 2009.06.29 @ 00:31:33

GENERAL INFORMATION:

Formation: **Toronto**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:25:33
 Time Test Ended: 05:47:03
 Interval: **3440.00 ft (KB) To 3478.00 ft (KB) (TVD)**
 Total Depth: 3478.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole
 Tester: Dan Bangle
 Unit No: 38
 Reference Elevations: 2192.00 ft (KB)
 2184.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8372 **Inside**
 Press@RunDepth: 34.96 psig @ 3441.00 ft (KB) Capacity: 7000.00 psig
 Start Date: 2009.06.29 End Date: 2009.06.29 Last Calib.: 2009.06.29
 Start Time: 00:31:34 End Time: 05:47:03 Time On Btm: 2009.06.29 @ 02:24:33
 Time Off Btm: 2009.06.29 @ 04:26:03

TEST COMMENT: IF-Weak steady 1/4" blow
 FF-Weak steady 1/4" blow



PRESSURE SUMMARY

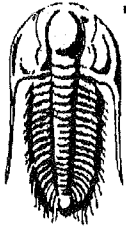
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1677.95	109.91	Initial Hydro-static
1	24.31	109.27	Open To Flow (1)
31	31.64	109.61	Shut-In(1)
60	69.88	110.07	End Shut-In(1)
61	27.91	110.04	Open To Flow (2)
88	34.96	110.44	Shut-In(2)
121	66.03	110.89	End Shut-In(2)
122	1646.61	111.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w/ oil specs	0.05

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

DNOC
PO Box 372
Hays KS 67601
ATTN: Ron Nelson

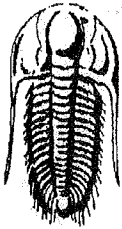
Deutscher # 3-10
10-13-21-Trego-Ks
Job Ticket: 34315 **DST#: 1**
Test Start: 2009.06.29 @ 00:31:33

Tool Information

Drill Pipe:	Length: 3391.00 ft	Diameter: 3.80 inches	Volume: 47.57 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 47.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	1.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3440.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	58.00 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			3421.00	
Shut In Tool	5.00			3426.00	
Hydraulic tool	5.00			3431.00	
Packer	5.00			3436.00	20.00 Bottom Of Top Packer
Packer	4.00			3440.00	
Stubb	1.00			3441.00	
Recorder	0.00	8372	Inside	3441.00	
Recorder	0.00	8520	Outside	3441.00	
Perforations	34.00			3475.00	
Bullnose	3.00			3478.00	38.00 Bottom Packers & Anchor
Total Tool Length:	58.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC
PO Box 372
Hays KS 67601

Deutscher # 3-10
10-13-21-Trego-Ks
Job Ticket: 34315 **DST#: 1**
Test Start: 2009.06.29 @ 00:31:33

ATTN: Ron Nelson

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: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.98 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: inches			

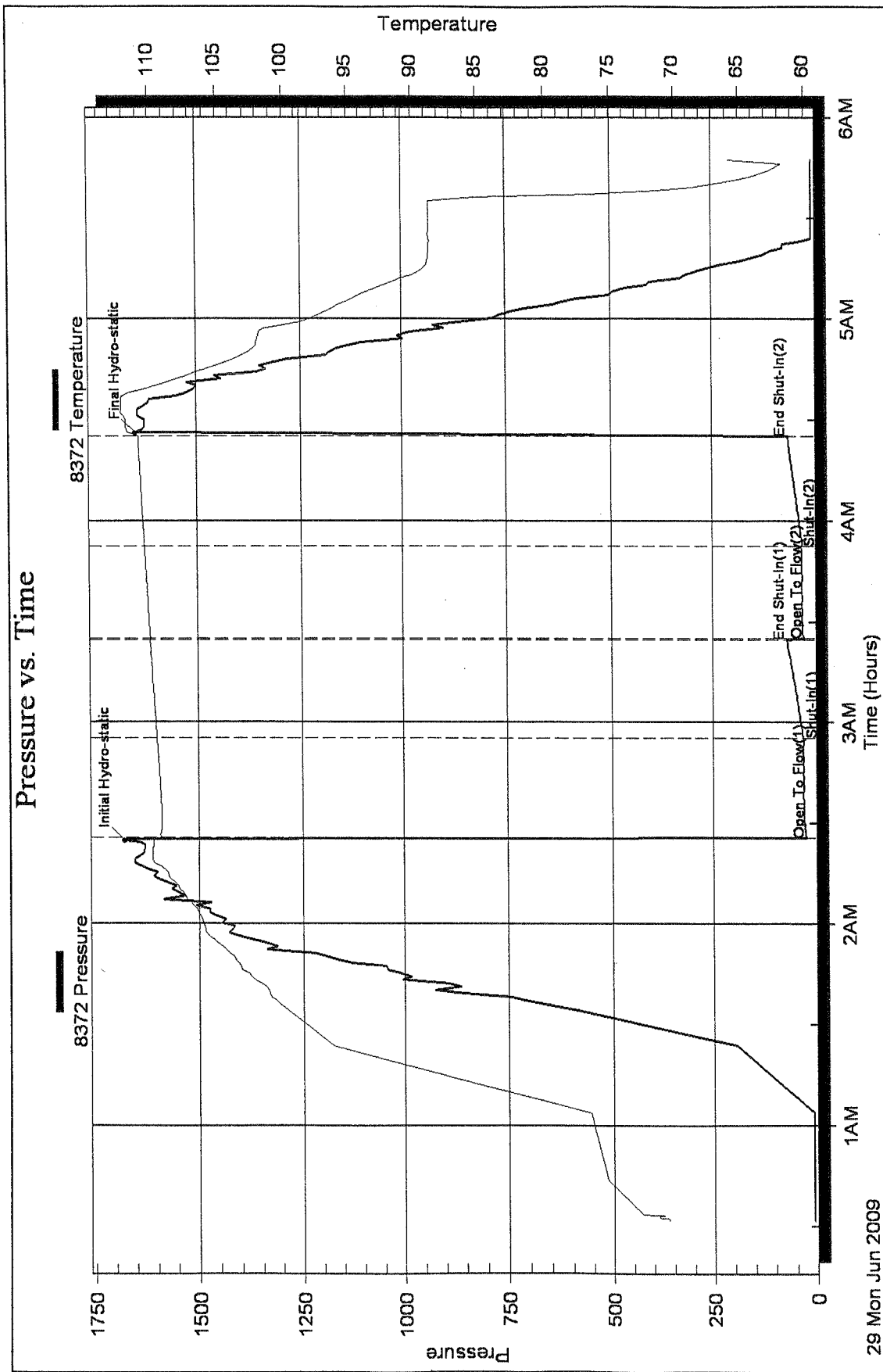
Recovery Information

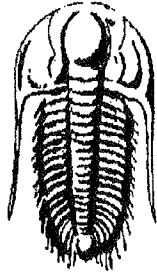
Recovery Table

Length ft	Description	Volume bbl
10.00	Mud w/ oil specs	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:
 Recovery Comments:

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **DNOC**

PO Box 372
Hays KS 67601

ATTN: Ron Nelson

10-13-21-Trego-Ks

Deutscher # 3-10

Start Date: 2009.06.29 @ 14:20:41

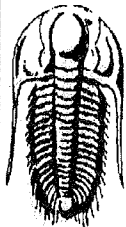
End Date: 2009.06.29 @ 18:52:11

Job Ticket #: 34316 DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

DNOC
PO Box 372
Hays KS 67601
ATTN: Ron Nelson

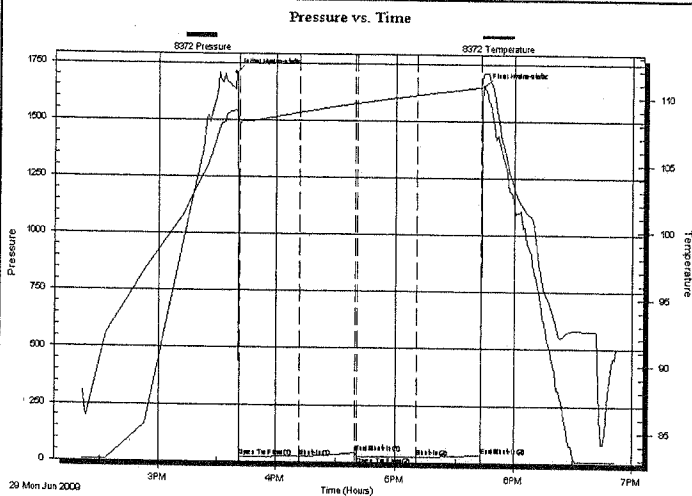
Deutscher # 3-10
10-13-21-Trego-Ks
Job Ticket: 34316 DST#: 2
Test Start: 2009.06.29 @ 14:20:41

GENERAL INFORMATION:

Formation: **C LK**
Deviated: **No** Whipstock: ft (KB)
Time Tool Opened: 15:41:11
Time Test Ended: 18:52:11
Interval: **3500.00 ft (KB) To 3548.00 ft (KB) (TVD)**
Total Depth: **3548.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Good**
Test Type: **Conventional Bottom Hole**
Tester: **Dan Bangle**
Unit No: **38**
Reference Elevations: **2192.00 ft (KB)**
2184.00 ft (CF)
KB to GR/CF: **8.00 ft**

Serial #: 8372 **Inside**
Press@RunDepth: **23.19 psig @ 3534.00 ft (KB)**
Start Date: **2009.06.29** End Date: **2009.06.29** Capacity: **7000.00 psig**
Start Time: **14:20:42** End Time: **18:52:11** Last Calib.: **2009.06.29**
Time On Btm: **2009.06.29 @ 15:39:41**
Time Off Btm: **2009.06.29 @ 17:44:11**

TEST COMMENT: IF-Weak died in 12 min
FF-No blow



PRESSURE SUMMARY

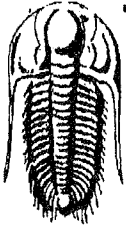
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1706.07	109.00	Initial Hydro-static
2	21.72	107.84	Open To Flow (1)
32	21.89	108.86	Shut-In (1)
60	40.69	109.55	End Shut-In (1)
61	22.63	109.57	Open To Flow (2)
91	23.19	110.19	Shut-In (2)
123	33.69	110.81	End Shut-In (2)
125	1651.34	111.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	DM	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

DNOC
PO Box 372
Hays KS 67601
ATTN: Ron Nelson

Deutscher # 3-10
10-13-21-Trego-Ks
Job Ticket: 34316 **DST#: 2**
Test Start: 2009.06.29 @ 14:20:41

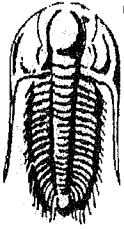
Tool Information

Drill Pipe:	Length: 3453.00 ft	Diameter: 3.80 inches	Volume: 48.44 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 48.59 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3500.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	67.00 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			3481.00	
Shut In Tool	5.00			3486.00	
Hydraulic tool	5.00			3491.00	
Packer	5.00			3496.00	20.00 Bottom Of Top Packer
Packer	4.00			3500.00	
Stubb	1.00			3501.00	
Change Over Sub	1.00			3502.00	
Drill Pipe	31.00			3533.00	
Change Over Sub	1.00			3534.00	
Recorder	0.00	8372	Inside	3534.00	
Recorder	0.00	8520	Outside	3534.00	
Perforations	10.00			3544.00	
Bullnose	3.00			3547.00	47.00 Bottom Packers & Anchor

Total Tool Length: 67.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC
PO Box 372
Hays KS 67601
ATTN: Ron Nelson

Deutscher # 3-10
10-13-21-Trego-Ks
Job Ticket: 34316 **DST#: 2**
Test Start: 2009.06.29 @ 14:20:41

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: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.08 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: inches			

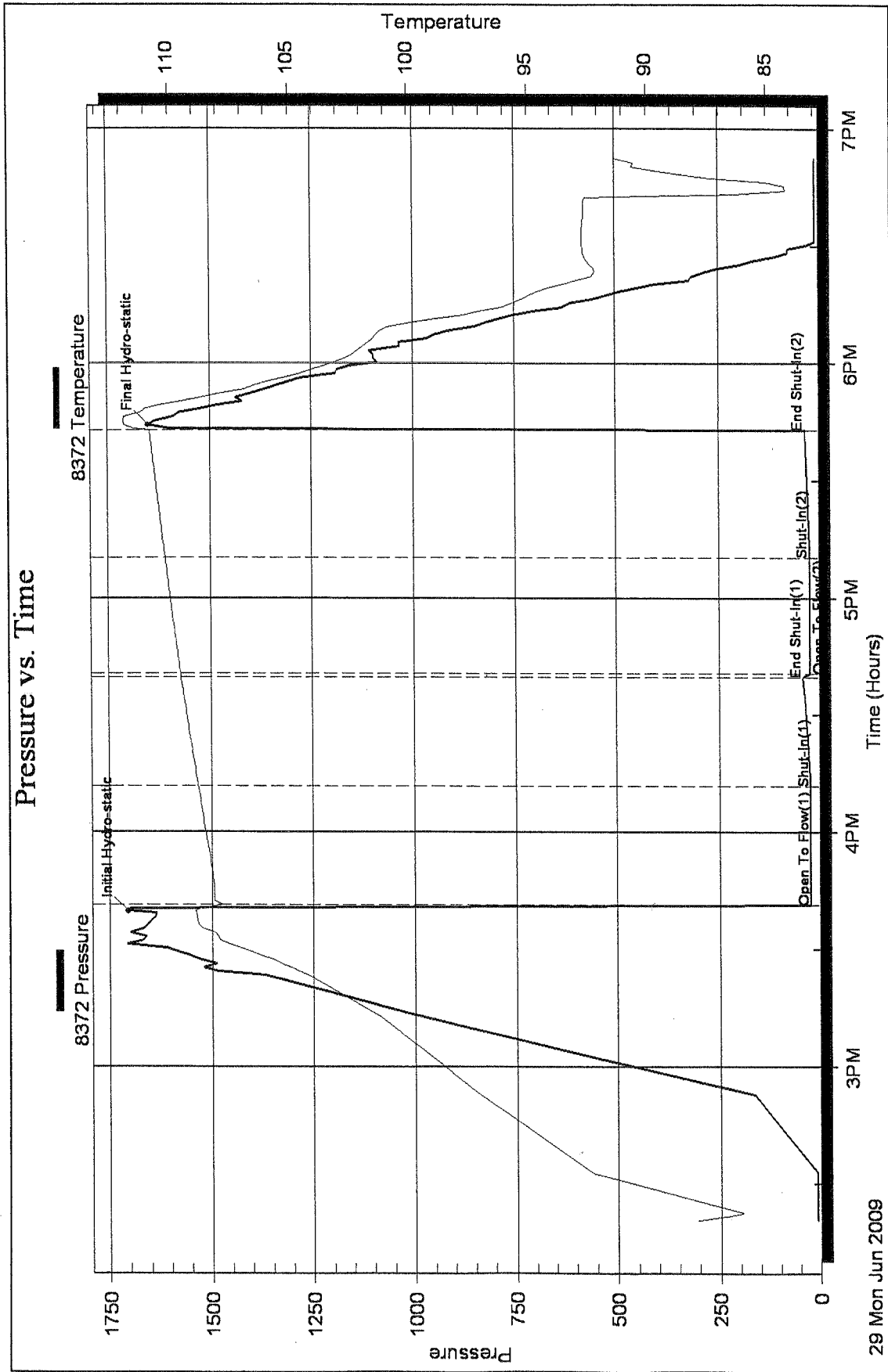
Recovery Information

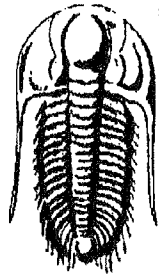
Recovery Table

Length ft	Description	Volume bbl
1.00	DM	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **DNOC**

PO Box 372
Hays KS 67601

ATTN: Ron Nelson

10-13-21-Trego-Ks

Deutscher # 3-10

Start Date: 2009.06.30 @ 00:10:53

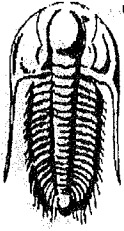
End Date: 2009.06.30 @ 05:17:23

Job Ticket #: 34317 DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

DNOC
PO Box 372
Hays KS 67601

ATTN: Ron Nelson

Deutscher # 3-10

10-13-21-Trego-Ks

Job Ticket: 34317

DST#: 3

Test Start: 2009.06.30 @ 00:10:53

GENERAL INFORMATION:

Formation: **E LKC**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:53:53

Time Test Ended: 05:17:23

Test Type: Conventional Bottom Hole

Tester: Dan Bangle

Unit No: 38

Interval: **3542.00 ft (KB) To 3561.00 ft (KB) (TVD)**

Total Depth: 3561.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2192.00 ft (KB)

2184.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8372 Inside

Press@RunDepth: 45.47 psig @ 3543.00 ft (KB)

Start Date: 2009.06.30

End Date:

2009.06.30

Capacity: 7000.00 psig

Last Calib.: 2009.06.30

Start Time: 00:10:54

End Time:

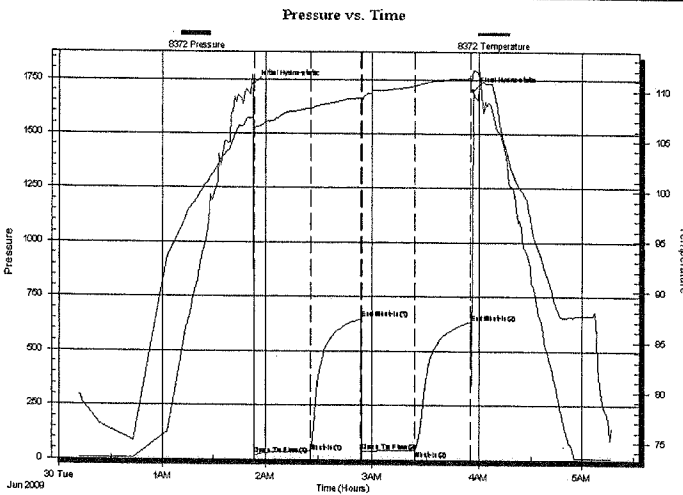
05:17:23

Time On Btm: 2009.06.30 @ 01:53:23

Time Off Btm: 2009.06.30 @ 03:56:23

TEST COMMENT: IF-Weak steady surface blow

FF-Weak steady surface blow



PRESSURE SUMMARY

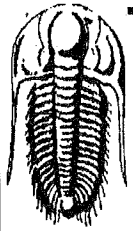
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1726.12	107.30	Initial Hydro-static
1	20.09	106.50	Open To Flow (1)
32	36.84	108.26	Shut-In(1)
61	647.85	109.34	End Shut-In(1)
61	38.76	109.02	Open To Flow (2)
90	45.47	110.51	Shut-In(2)
122	634.23	111.29	End Shut-In(2)
123	1699.50	112.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	DM	0.29

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

DNOC
PO Box 372
Hays KS 67601

Deutscher # 3-10
10-13-21-Trego-Ks
Job Ticket: 34317 **DST#: 3**
Test Start: 2009.06.30 @ 00:10:53

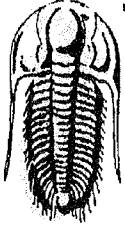
ATTN: Ron Nelson

Tool Information

Drill Pipe:	Length: 3507.00 ft	Diameter: 3.80 inches	Volume: 49.19 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 49.34 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3542.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.00 ft			
Tool Length:	39.00 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			3523.00	
Shut In Tool	5.00			3528.00	
Hydraulic tool	5.00			3533.00	
Packer	5.00			3538.00	20.00 Bottom Of Top Packer
Packer	4.00			3542.00	
Stubb	1.00			3543.00	
Recorder	0.00	8372	Inside	3543.00	
Recorder	0.00	8520	Outside	3543.00	
Perforations	15.00			3558.00	
Bullnose	3.00			3561.00	19.00 Bottom Packers & Anchor
Total Tool Length:	39.00				



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC
PO Box 372
Hays KS 67601
ATTN: Ron Nelson

Deutscher # 3-10
10-13-21-Trego-Ks
Job Ticket: 34317 **DST#: 3**
Test Start: 2009.06.30 @ 00:10:53

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: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.88 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: inches			

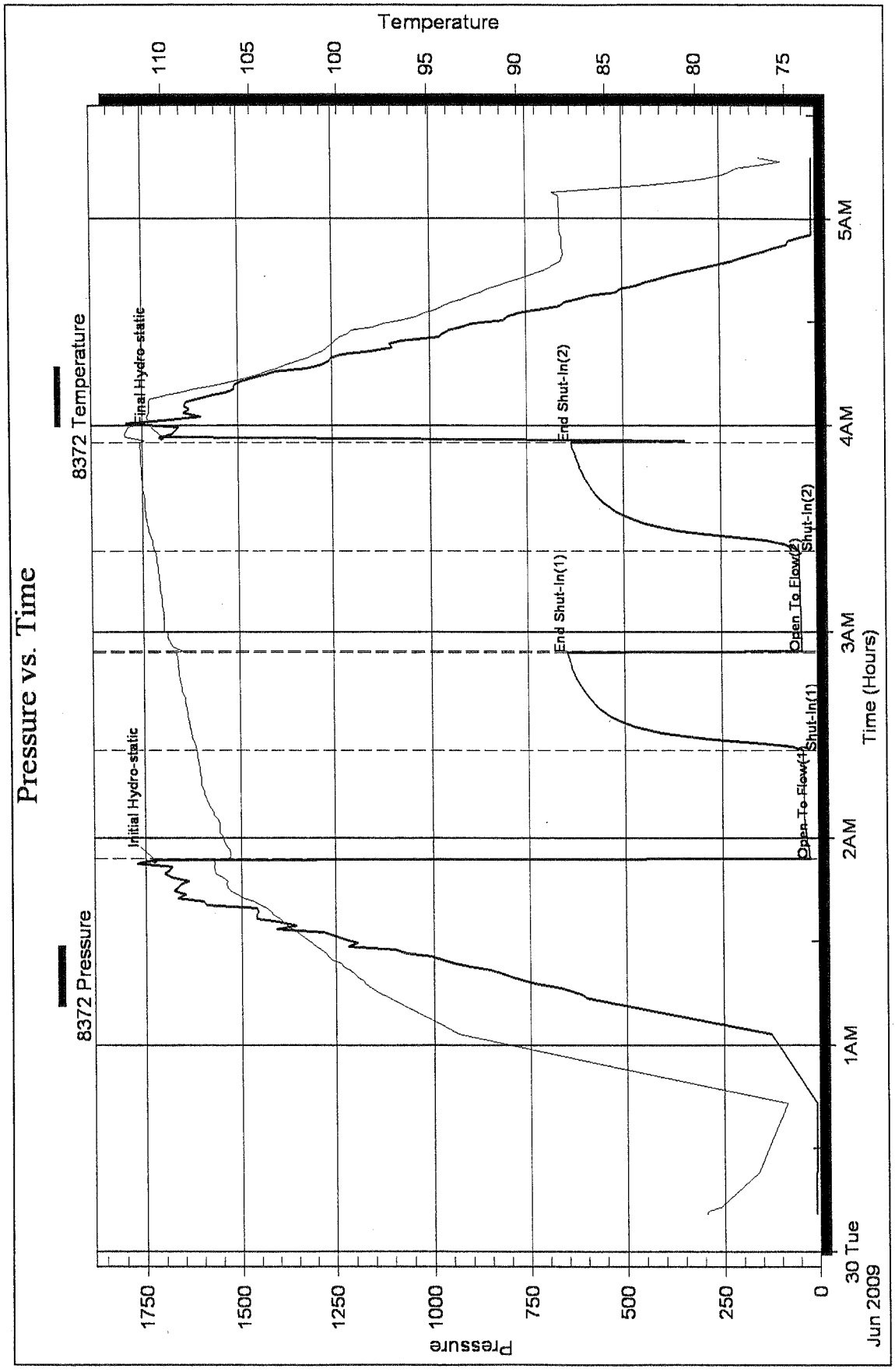
Recovery Information

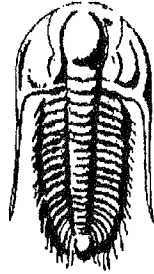
Recovery Table

Length ft	Description	Volume bbl
40.00	DM	0.288

Total Length: 40.00 ft Total Volume: 0.288 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **DNOC**

PO Box 372
Hays KS 67601

ATTN: Ron Nelson

10-13-21-Trego-Ks

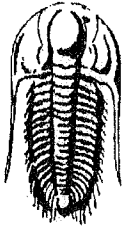
Deutscher # 3-10

Start Date: 2009.07.01 @ 02:45:03

End Date: 2009.07.01 @ 08:11:33

Job Ticket #: 34318 DST #: 4

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

DNOC
 PO Box 372
 Hays KS 67601
 ATTN: Ron Nelson

Deutscher # 3-10
10-13-21-Trego-Ks
 Job Ticket: 34318 **DST#: 4**
 Test Start: 2009.07.01 @ 02:45:03

GENERAL INFORMATION:

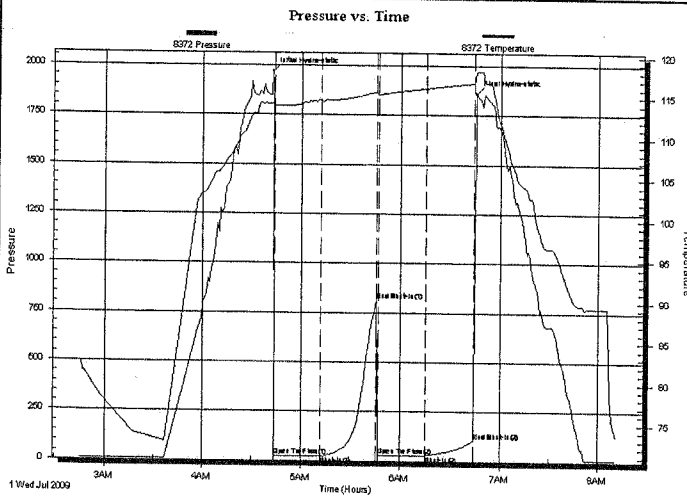
Formation: **Marmaton**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:43:33
 Time Test Ended: 08:11:33
 Interval: **3819.00 ft (KB) To 3850.00 ft (KB) (TVD)**
 Total Depth: 3850.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole
 Tester: Dan Bangle
 Unit No: 38
 Reference Elevations: 2192.00 ft (KB)
 2184.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8372 **Inside**
 Press@RunDepth: 29.63 psig @ 3820.00 ft (KB)
 Start Date: 2009.07.01 End Date: 2009.07.01
 Start Time: 02:45:04 End Time: 08:11:33

Capacity: 7000.00 psig
 Last Calib.: 2009.07.01
 Time On Btm: 2009.07.01 @ 04:42:33
 Time Off Btm: 2009.07.01 @ 06:45:03

TEST COMMENT: IF-Weak surface blow
 FF-Weak surface blow



PRESSURE SUMMARY

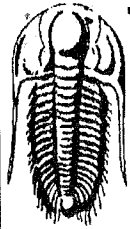
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1967.62	114.22	Initial Hydro-static
1	21.42	113.74	Open To Flow (1)
30	24.96	114.53	Shut-In(1)
64	813.55	115.68	End Shut-In(1)
65	27.67	115.32	Open To Flow (2)
93	29.63	116.14	Shut-In(2)
122	105.76	116.83	End Shut-In(2)
123	1860.80	118.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM 10%o 90%o	0.02

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

DNOC
PO Box 372
Hays KS 67601
ATTN: Ron Nelson

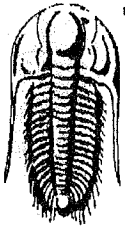
Deutscher # 3-10
10-13-21-Trego-Ks
Job Ticket: 34318 **DST#: 4**
Test Start: 2009.07.01 @ 02:45:03

Tool Information

Drill Pipe:	Length: 3799.00 ft	Diameter: 3.80 inches	Volume: 53.29 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 53.44 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3819.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	51.00 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			3800.00	
Shut In Tool	5.00			3805.00	
Hydraulic tool	5.00			3810.00	
Packer	5.00			3815.00	20.00 Bottom Of Top Packer
Packer	4.00			3819.00	
Stubb	1.00			3820.00	
Recorder	0.00	8372	Inside	3820.00	
Recorder	0.00	8520	Outside	3820.00	
Perforations	27.00			3847.00	
Bullnose	3.00			3850.00	31.00 Bottom Packers & Anchor
Total Tool Length:	51.00				



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC
PO Box 372
Hays KS 67601
ATTN: Ron Nelson

Deutscher # 3-10
10-13-21-Trego-Ks
Job Ticket: 34318 **DST#: 4**
Test Start: 2009.07.01 @ 02:45:03

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: 44.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.19 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6000.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OCM 10%o 90%m	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

