

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Bowman Oil**

2640 W. Rd
Natoma, KS 67651

ATTN: Ed Glassman

Simminger #1

21-3s-34w Rawlins,KS

Start Date: 2013.11.04 @ 00:42:00

End Date: 2013.11.04 @ 08:37:45

Job Ticket #: 55809 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.11.14 @ 13:11:59

Bowman Oil
21-3s-34w Rawlins,KS
Simminger #1
DST # 1
Lower Topeka
2013.11.04



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bow man Oil

21-3s-34w Rawlins,KS

2640 W. Rd
Natoma, KS 67651

Simminger #1

Job Ticket: 55809

DST#: 1

ATTN: Ed Glassman

Test Start: 2013.11.04 @ 00:42:00

GENERAL INFORMATION:

Formation: **Lower Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:55:15

Time Test Ended: 08:37:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #44

Interval: **3886.00 ft (KB) To 3916.00 ft (KB) (TVD)**

Total Depth: 3916.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3054.00 ft (KB)

3046.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8879

Inside

Press@RunDepth: 13.30 psig @ 3887.00 ft (KB)

Start Date: 2013.11.04

End Date: 2013.11.04

Capacity: 8000.00 psig

Last Calib.: 2013.11.05

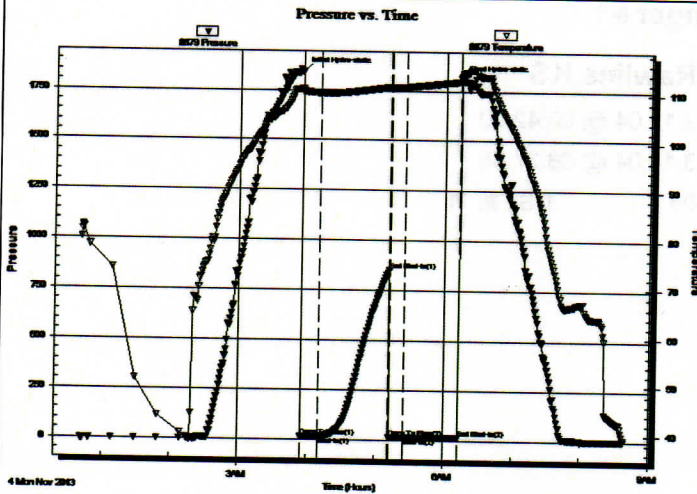
Start Time: 00:42:05

End Time: 08:37:44

Time On Btm: 2013.11.04 @ 03:55:00

Time Off Btm: 2013.11.04 @ 06:13:30

TEST COMMENT: IF - 15 - weak surface blow when opened tool then died
ISI - 60 - No return
FF - 15 - Weak surface blow then died off
FSI - 45 - No return



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1843.71 | 111.04 | Initial Hydro-static |
| 1 | 12.07 | 110.18 | Open To Flow (1) |
| 15 | 12.64 | 110.15 | Shut-In(1) |
| 77 | 852.08 | 111.44 | End Shut-In(1) |
| 78 | 13.08 | 111.16 | Open To Flow (2) |
| 90 | 13.30 | 111.46 | Shut-In(2) |
| 138 | 13.90 | 112.65 | End Shut-In(2) |
| 139 | 1809.01 | 113.39 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 1.00 | Mud - 100m | 0.01 |
| | | |
| | | |
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Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Bow man Oil
2640 W. Rd
Natoma, KS 67651

ATTN: Ed Glassman

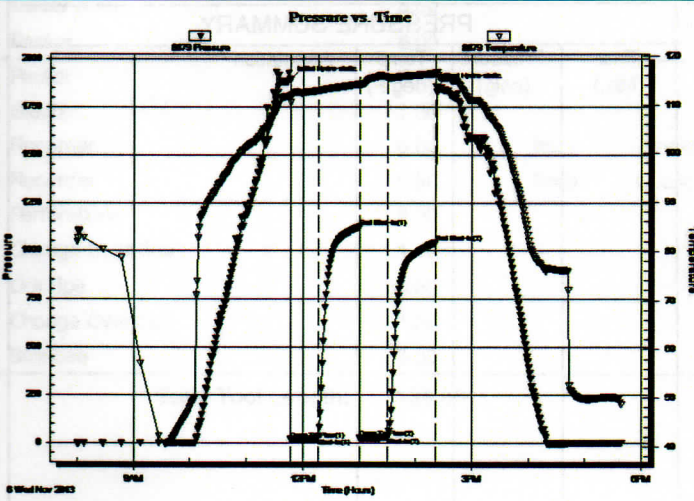
21-3s-34w Rawlins,KS
Simminger #1
Job Ticket: 55810 **DST#: 2**
Test Start: 2013.11.06 @ 08:00:00

GENERAL INFORMATION:

Formation: **Toronto - C**
Deviated: No Whipstock: ft (KB)
Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 11:46:45
Tester: Royal Fisher
Time Test Ended: 17:39:00
Unit No: #44
Interval: **3937.00 ft (KB) To 4045.00 ft (KB) (TVD)**
Reference Elevations: 3054.00 ft (KB)
Total Depth: 4045.00 ft (KB) (TVD) 3046.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 8.00 ft

Serial #: 8879 Inside
Press@RunDepth: 28.71 psig @ 3938.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.11.06 End Date: 2013.11.06 Last Calib.: 2013.11.06
Start Time: 08:00:05 End Time: 17:39:00 Time On Btm: 2013.11.06 @ 11:46:30
Time Off Btm: 2013.11.06 @ 14:21:45

TEST COMMENT: IF - 30 - weak surface blow built to 1"
ISI - 45 - no return
FF - 30 - no surface blow
FSI - 45 - no return



PRESSURE SUMMARY

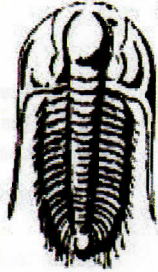
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1892.67 | 111.79 | Initial Hydro-static |
| 1 | 15.99 | 110.39 | Open To Flow (1) |
| 30 | 21.42 | 112.85 | Shut-In(1) |
| 74 | 1124.26 | 114.14 | End Shut-In(1) |
| 75 | 22.53 | 113.84 | Open To Flow (2) |
| 104 | 28.71 | 115.52 | Shut-In(2) |
| 155 | 1041.80 | 116.37 | End Shut-In(2) |
| 156 | 1855.97 | 116.62 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 3.00 | Mud - 100M | 0.04 |
| | | |
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| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Bowman Oil**
2640 W. Rd
Natoma, KS 67651

ATTN: Ed Glassman

Simminger #1

21-3s-34w Rawlins,KS

Start Date: 2013.11.08 @ 22:21:00

End Date: 2013.11.09 @ 06:50:20

Job Ticket #: 55101 DST #: 3

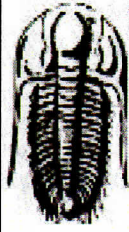
Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.11.14 @ 13:10:26

Bowman Oil
21-3s-34w Rawlins,KS
Simminger #1
DST # 3
LKC " H "
2013.11.08



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Bow man Oil
2640 W. Rd
Natoma, KS 67651
ATTN: Ed Glassman

21-3s-34w Rawlins,KS
Simminger #1
Job Ticket: 55101 **DST#: 3**
Test Start: 2013.11.08 @ 22:21:00

GENERAL INFORMATION:

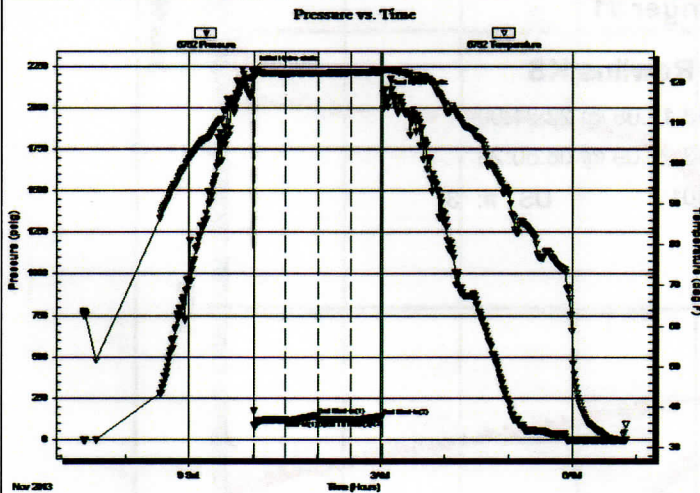
Formation: **LKC "H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:00:40
Time Test Ended: 06:50:20
Interval: **4085.00 ft (KB) To 4197.00 ft (KB) (TVD)**
Total Depth: 4045.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Straddle (Reset)
Tester: Ryan Nichols
Unit No: 41
Reference Elevations: 3054.00 ft (KB)
3046.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 6752

Inside

Press@RunDepth: 121.09 psig @ 4086.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.11.08 End Date: 2013.11.09 Last Calib.: 2013.11.09
Start Time: 22:21:01 End Time: 06:50:20 Time On Btm: 2013.11.09 @ 01:00:10
Time Off Btm: 2013.11.09 @ 03:01:50

TEST COMMENT: 30 IF - 2" blow built to 7"
30 ISI - No return
30 FF - No blow
30 FSI - No return



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2229.60 | 121.27 | Initial Hydro-static |
| 1 | 84.19 | 121.06 | Open To Flow (1) |
| 31 | 118.59 | 122.18 | Shut-In(1) |
| 61 | 146.20 | 122.28 | End Shut-In(1) |
| 62 | 114.55 | 122.28 | Open To Flow (2) |
| 92 | 121.09 | 122.44 | Shut-In(2) |
| 122 | 141.90 | 122.64 | End Shut-In(2) |
| 122 | 2084.15 | 122.99 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 78.00 | Mud 100%M | 1.09 |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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