

TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co.**

562 W. Highway 4
Olmitz, KS 67564

ATTN: Tom Larson

32-14s-10^Ew

Eldridge #3-32

Start Date: 2002.11.23 @ 05:37:22

End Date: 2002.11.23 @ 15:41:22

Job Ticket #: 16671 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Larson Operating Co.

Eldridge #3-32

32-14s-10w

DST # 1

Viola

2002.11.23



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Operating Co.
562 W. Highway 4
Olmritz, KS 67564
ATTN: Tom Larson

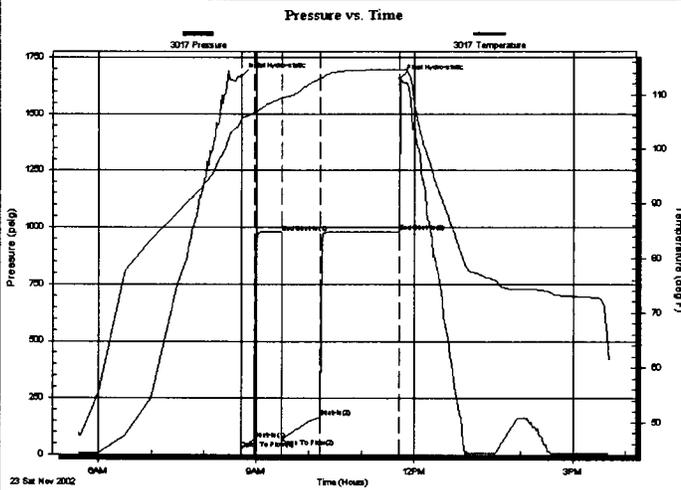
Eldridge #3-32
32-14s-10w
Job Ticket: 16671 **DST#: 1**
Test Start: 2002.11.23 @ 05:37:22

GENERAL INFORMATION:

Formation: **Viola**
Deviated: **No** Whipstock: ft (KB)
Time Tool Opened: 08:42:52
Time Test Ended: 15:41:22
Interval: **3235.00 ft (KB) To 3243.00 ft (KB) (TVD)**
Total Depth: **3243.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: Fair
Reference Elevations: **1478.00 ft (KB)**
1468.00 ft (CF)
KB to GR/CF: **10.00 ft**

Serial #: 3017 Inside
Press@RunDepth: **164.90 psig @ 3236.01 ft (KB)** Capacity: **7000.00 psig**
Start Date: **2002.11.23** End Date: **2002.11.23** Last Calib.: **2002.11.23**
Start Time: **05:37:24** End Time: **15:41:22** Time On Btm: **2002.11.23 @ 08:42:22**
Time Off Btm: **2002.11.23 @ 11:43:52**

TEST COMMENT: F-Weak to Good built 6" in IS-no blow
FF-Weak to good built 11" in FSI-no blow



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1666.14 | 105.29 | Initial Hydro-static |
| 1 | 26.47 | 105.30 | Open To Flow (1) |
| 16 | 66.26 | 106.73 | Shut-in(1) |
| 46 | 974.32 | 109.37 | End Shut-in(1) |
| 47 | 68.93 | 109.41 | Open To Flow (2) |
| 90 | 164.90 | 113.00 | Shut-in(2) |
| 181 | 981.73 | 114.55 | End Shut-in(2) |
| 182 | 1656.95 | 114.55 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-----------------------|--------------|
| 30.00 | M-C-O 30% mud 70% oil | 0.15 |
| 325.00 | Clean oil -100% oil | 1.73 |
| | | |
| | | |
| | | |

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating Co.

Eldridge #3-32

562 W. Highway 4
Olmitz, KS 67564

32-14s-10w

Job Ticket: 16671

DST#: 1

ATTN: Tom Larson

Test Start: 2002.11.23 @ 05:37:22

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 2916.00 ft | Diameter: 2.80 inches | Volume: 22.21 bbl | Tool Weight: 2000.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 2.70 inches | Volume: 0.00 bbl | Weight set on Packer: 25000.00 lb |
| Drill Collar: | Length: 308.00 ft | Diameter: 2.25 inches | Volume: 1.51 bbl | Weight to Pull Loose: 58000.00 lb |
| | | | <u>Total Volume: 23.72 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 16.00 ft | | | String Weight: Initial 50000.00 lb |
| Depth to Top Packer: | 3235.00 ft | | | Final 51000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 8.01 ft | | | |
| Tool Length: | 35.01 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|------------------------------|
| C.O. Sub | 1.00 | | | 3209.00 | |
| S.I. Tool | 5.00 | | | 3214.00 | |
| HMV | 5.00 | | | 3219.00 | |
| Jars | 5.00 | | | 3224.00 | |
| Safety Joint | 2.00 | | | 3226.00 | |
| Packer | 4.00 | | | 3230.00 | 27.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3235.00 | |
| Stubb | 1.00 | | | 3236.00 | |
| Recorder | 0.01 | 3017 | inside | 3236.01 | |
| Perforations | 4.00 | | | 3240.01 | |
| Bullnose | 3.00 | | | 3243.01 | 8.01 Bottom Packers & Anchor |

Total Tool Length: 35.01



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FLUID SUMMARY

Larson Operating Co.

Eldridge #3-32

562 W. Highway 4
Olmitz, KS 67564

32-14s-10w

Job Ticket: 16671

DST#: 1

ATTN: Tom Larson

Test Start: 2002.11.23 @ 05:37:22

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbbl |
|--------------|-----------------------|----------------|
| 30.00 | M-C-O 30% mud 70% oil | 0.148 |
| 325.00 | Clean oil -100% oil | 1.725 |

Total Length: 355.00 ft

Total Volume: 1.873 bbl

Num Fluid Samples: 0

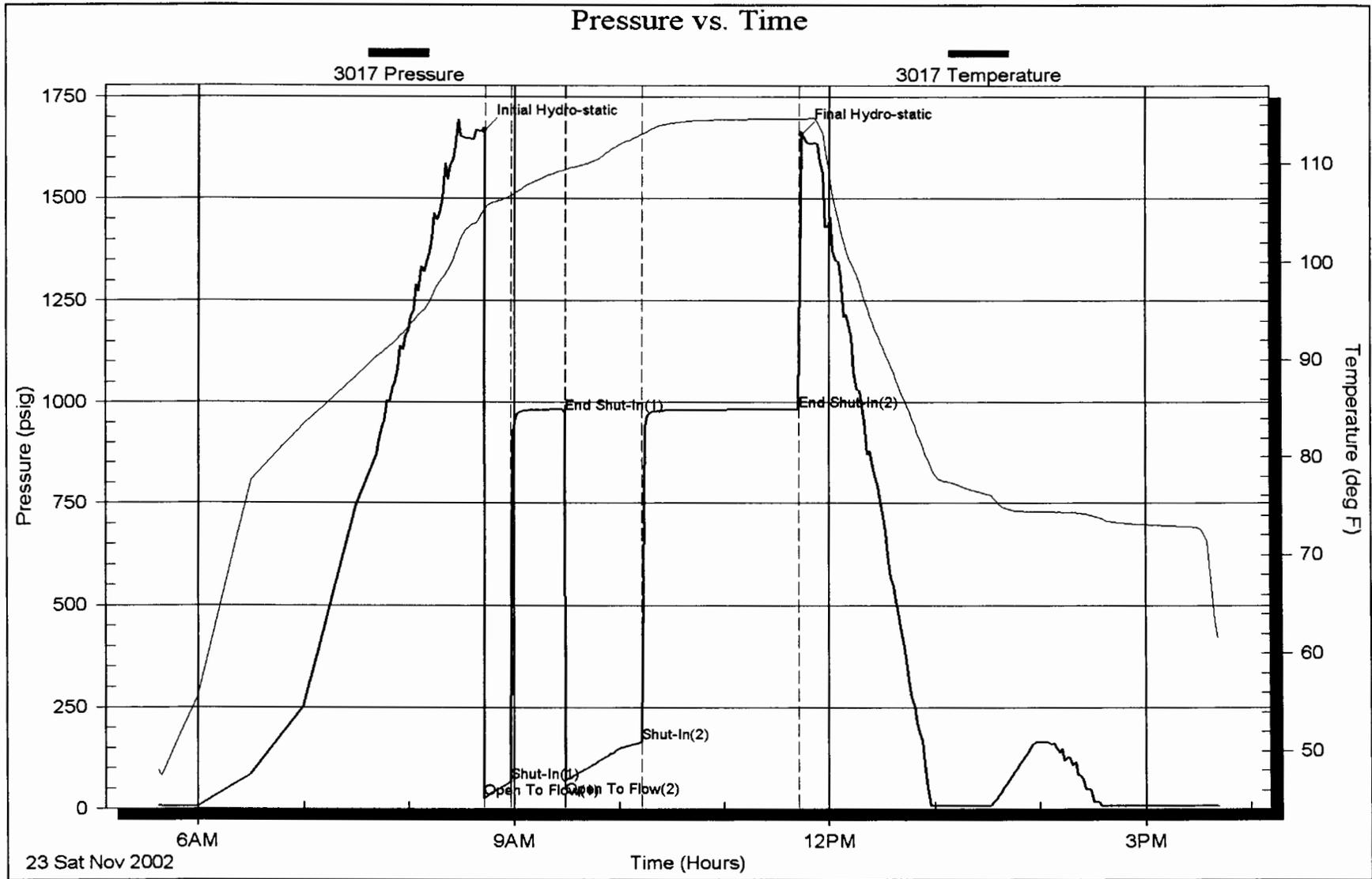
Num Gas Bombs: 0

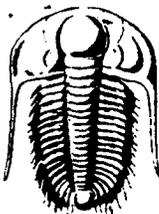
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

TNN
\$250

1375

No 16671

Test Ticket

Well Name & No. ELDRIDGE #3-32 Test No. #1 Date 11-23-02
 Company LARSON OPERATING CO. Zone Tested VICLA
 Address 562 W. HIGHWAY 4 OLMITZ, KS 67564 Elevation 1478 KB 1468 GL
 Co. Rep / Geo. STEVE DAVIS Cont. SUMMIT DRILL Est. Ft. of Pay Por. %
 Location: Sec. 32 Twp. 14S Rge. 10 E Co. WABAUNSEE State KS
 No. of Copies Distribution Sheet (Y, N) Turnkey (Y, N) Evaluation (Y, N)

Interval Tested 3235 TO 3243 Initial Str Wt./Lbs. 50,000 Unseated Str Wt./Lbs. 51,000
 Anchor Length 8' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 52,000
 Top Packer Depth 3230 Tool Weight 2,000
 Bottom Packer Depth 3235 Hole Size — 7 7/8" Rubber Size — 6 3/4"
 Total Depth 3243 Wt. Pipe Run Drill Collar Run 308'
 Mud Wt. 9.7 LCM 3 Vis. 47 WL 9.2 Drill Pipe Size 3 1/2 X H Ft. Run 2916
 Blow Description IF-WEAR TO GOOD BUILT 6" IN. IS3-NO-BLOW
FF-WEAR TO GOOD BUILT 11" IN. FSI-NO BLOW

Recovery — Total Feet 355 GIP Ft. in DC 308' Ft. in DP 47'
 Rec. 325' Feet Of CLEAN OIL %gas 100 %oil %water %mud
 Rec. 30' Feet Of MUD CUT OIL %gas 70 %oil %water 30 %mud
 Rec. Feet Of %gas %oil %water %mud
 Rec. Feet Of %gas %oil %water %mud
 Rec. Feet Of %gas %oil %water %mud
 BHT 114 °F Gravity 34 °API D@ 70 °F Corrected Gravity 33 °API
 RW @ °F Chlorides ppm Recovery Chlorides ppm System

| | AK-1 | Alpine | PSI Recorder No. | T-On Location |
|----------------------------------|------|--------|--------------------------------|--------------------------------|
| (A) Initial Hydrostatic Mud | | 1666 | 3017 | 05:00 |
| (B) First Initial Flow Pressure | | 26 | (depth) 3236 | T-Started 05:37 |
| (C) First Final Flow Pressure | | 66 | PSI Recorder No. | T-Open 08:42 |
| (D) Initial Shut-In Pressure | | 974 | PSI (depth) | T-Pulled 11:43 |
| (E) Second Initial Flow Pressure | | 68 | PSI Recorder No. | T-Out 15:37 |
| (F) Second Final Flow Pressure | | 16.4 | PSI (depth) | T-Off Location 16:30 |
| (G) Final Shut-in Pressure | | 981 | PSI Initial Opening <u>125</u> | Test <u>BOTTOM HOLE</u> 700 |
| (Q) Final Hydrostatic Mud | | 1656 | PSI Initial Shut-in <u>30</u> | Jars <u> </u> 200 |
| | | | Final Flow <u>45</u> | Safety Joint <u> </u> 50 |
| | | | Final Shut-in <u>90</u> | Straddle <u> </u> |
| | | | | Circ. Sub <u> </u> |
| | | | | Sampler <u> </u> |
| | | | | Extra Packer <u> </u> |
| | | | | Elec. Rec. <u> </u> 150 |
| | | | | Mileage <u>185</u> 185 |
| | | | | Other <u>3 hr Standby</u> 1285 |
| | | | | TOTAL PRICE \$ <u>1375</u> 90 |

TRILOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGE 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.

Approved By T.C. Larson
Our Representative John A. Schmidt

TOTAL PRICE \$ 1375