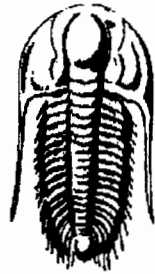


15-023-20539

2-3s-41w



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company Inc**

250 N Water Ste #300
Wichita KS. 67202

ATTN: Curtis Covey

2-3S-41W Cheyenne Ks

Zweygardt #1-2

Start Date: 2003.01.01 @ 10:05:00

End Date: 2003.01.01 @ 17:20:30

Job Ticket #: 18047 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Murfin Drilling Company Inc

Zweygardt #1-2

2-3S-41W Cheyenne Ks

DST # 1

L/KC "D"

2003.01.01



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

Zweygardt #1-2

250 N Water Ste #300
Wichita KS. 67202

2-3S-41W Cheyenne Ks

Job Ticket: 18047

DST#: 1

ATTN: Curtis Covey

Test Start: 2003.01.01 @ 10:05:00

GENERAL INFORMATION:

Formation: **L/KC "D"**

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

Time Tool Opened: 11:33:15

Time Test Ended: 17:20:30

Test Type: **Conventional Bottom Hole**

Tester: **Rod Steinbrink**

Unit No: **22**

Interval: **4386.00 ft (KB) To 4442.00 ft (KB) (TVD)**

Total Depth: **4442.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **3530.00 ft (KB)**

3525.00 ft (CF)

KB to GR/CF: **5.00 ft**

Serial #: 6799

Inside

Press@RunDepth: **39.10 psig @ 4387.00 ft (KB)**

Start Date: **2003.01.01**

End Date:

2003.01.01

Start Time: **10:05:10**

End Time:

17:20:30

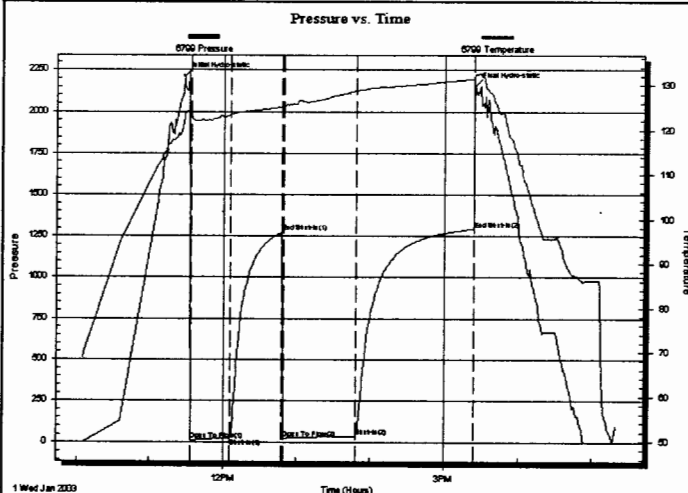
Capacity: **7000.00 psig**

Last Calib.: **1899.12.30**

Time On Btrm: **2003.01.01 @ 11:27:45**

Time Off Btrm: **2003.01.01 @ 15:24:45**

TEST COMMENT: **IF; Weak surface blow built to 1/2"**
FF No return blow



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2213.84 | 122.77 | Initial Hydro-static |
| 6 | 13.42 | 123.56 | Open To Flow (1) |
| 39 | 26.11 | 123.45 | Shut-In(1) |
| 81 | 1272.39 | 125.19 | End Shut-In(1) |
| 82 | 27.32 | 125.19 | Open To Flow (2) |
| 142 | 39.10 | 128.71 | Shut-In(2) |
| 236 | 1292.77 | 131.43 | End Shut-In(2) |
| 237 | 2153.45 | 132.38 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-----------------|--------------|
| 55.00 | Oil Spotted Mud | 0.27 |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company Inc

Zweygardt #1-2

250 N Water Ste #300
Wichita KS. 67202

2-3S-41W Cheyenne Ks

Job Ticket: 18047

DST#: 1

ATTN: Curtis Covey

Test Start: 2003.01.01 @ 10:05:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|-------------------|------------------------------------|
| Drill Pipe: | Length: 3841.00 ft | Diameter: 3.80 inches | Volume: 53.88 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: 540.00 ft | Diameter: 2.25 inches | Volume: 2.66 bbl | Weight to Pull Loose: 70000.00 lb |
| | | Total Volume: | 56.54 bbl | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 17.00 ft | | | String Weight: Initial 52000.00 lb |
| Depth to Top Packer: | 4386.00 ft | | | Final 52000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 56.00 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 |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Shut In Tool | 5.00 | | | 4369.00 | |
| Hydraulic tool | 5.00 | | | 4374.00 | |
| Safety Joint | 2.00 | | | 4376.00 | |
| Packer | 5.00 | | | 4381.00 | 22.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 4386.00 | |
| Stubb | 1.00 | | | 4387.00 | |
| Recorder | 0.00 | 6799 | Inside | 4387.00 | |
| Perforations | 17.00 | | | 4404.00 | |
| Change Over Sub | 1.00 | | | 4405.00 | |
| Anchor | 31.00 | | | 4436.00 | |
| Change Over Sub | 1.00 | | | 4437.00 | |
| Recorder | 0.00 | 13309 | Outside | 4437.00 | |
| Bullnose | 5.00 | | | 4442.00 | 56.00 Bottom Packers & Anchor |

Total Tool Length: 78.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

Zweygardt #1-2

250 N Water Ste #300
Wichita KS. 67202

2-3S-41W Cheyenne Ks

Job Ticket: 18047

DST#: 1

ATTN: Curtis Covey

Test Start: 2003.01.01 @ 10:05:00

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: 63.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbf |
|--------------|-----------------|---------------|
| 55.00 | Oil Spotted Mud | 0.270 |

Total Length: 55.00 ft

Total Volume: 0.270 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

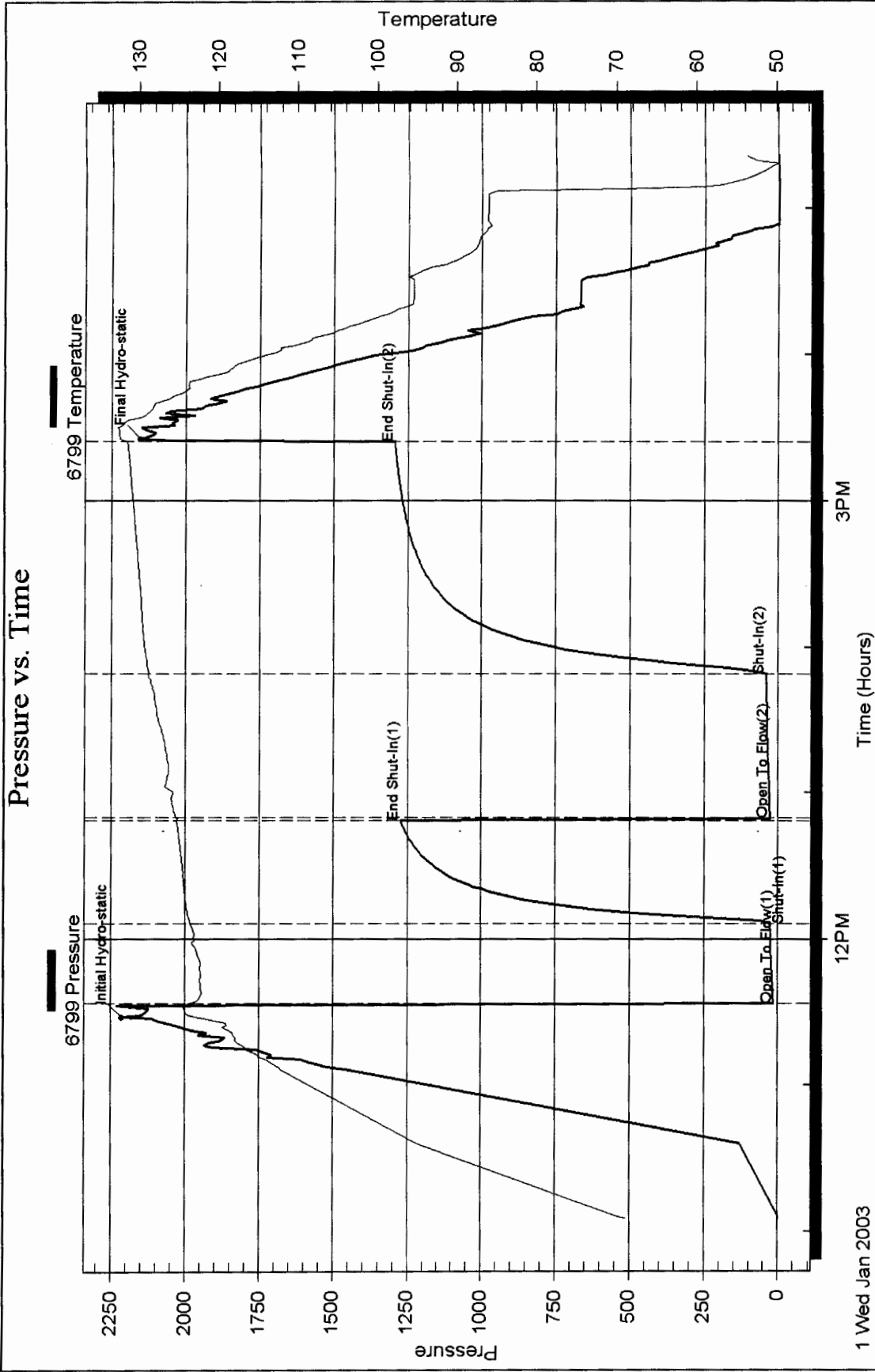
Serial #: 6799

Inside

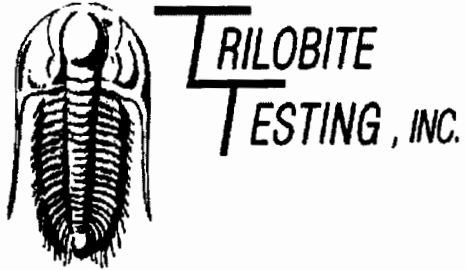
Murfin Drilling Company Inc

2-3S-41W Cheyenne Ks

DST Test Number: 1



1 Wed Jan 2003



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company Inc**

250 N Water Ste #300
Wichita KS. 67202

ATTN: Curtis Covey

2-3S-41W Cheyenne Ks

Zweygartd #1-2

Start Date: 2004.01.02 @ 13:35:14

End Date: 2004.01.02 @ 21:27:14

Job Ticket #: 18048 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Murfin Drilling Company Inc

Zweygartd #1-2

2-3S-41W Cheyenne Ks

DST # 2

L/KC "J"

2004.01.02



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

250 N Water Ste #300
Wichita KS. 67202

ATTN: Curtis Covey

Zweygardt #1-2

2-3S-41W Cheyenne Ks

Job Ticket: 18048

DST#: 2

Test Start: 2004.01.02 @ 13:35:14

GENERAL INFORMATION:

Formation: **L/KC "J"**

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

Time Tool Opened: 14:54:29

Time Test Ended: 21:27:14

Test Type: **Conventional Bottom Hole**

Tester: **Rod Steinbrink**

Unit No: **22**

Interval: **4544.00 ft (KB) To 4589.00 ft (KB) (TVD)**

Total Depth: **4589.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **3530.00 ft (KB)**

3525.00 ft (CF)

KB to GR/CF: **5.00 ft**

Serial #: 6799

Inside

Press@RunDepth: **288.09 psig @ 4545.00 ft (KB)**

Start Date: **2004.01.02**

End Date:

2004.01.02

Start Time: **13:35:24**

End Time:

21:27:14

Capacity: **7000.00 psig**

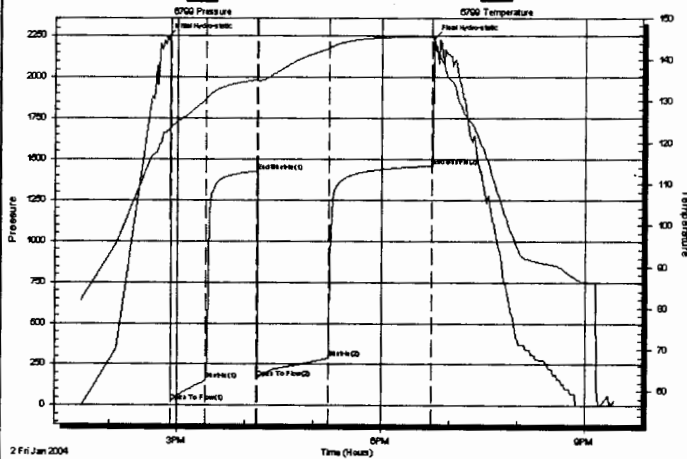
Last Calib.: **1899.12.30**

Time On Btm: **2004.01.02 @ 14:51:14**

Time Off Btm: **2004.01.02 @ 18:45:44**

TEST COMMENT: IF; Fair to strong off btm in 23 mins.
IS; Surface blow built to 1 1/2"
FF; Fair to strong off btm in 23 mins.
FS; Surface blow built to 3:

Pressure vs. Time



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2239.15 | 122.91 | Initial Hydro-static |
| 4 | 17.94 | 123.65 | Open To Flow (1) |
| 35 | 151.29 | 130.61 | Shut-In(1) |
| 79 | 1426.40 | 135.20 | End Shut-In(1) |
| 80 | 167.82 | 134.98 | Open To Flow (2) |
| 142 | 288.09 | 142.74 | Shut-In(2) |
| 233 | 1460.33 | 145.56 | End Shut-In(2) |
| 235 | 2233.72 | 145.17 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------------|--------------|
| 630.00 | CGO 15%gas 85%oil | 3.92 |
| 90.00 | OCM 25%oil 75%mud | 1.26 |
| | 50 GIP | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company Inc

Zweygardt #1-2

250 N Water Ste #300
Wichita KS. 67202

2-3S-41W Cheyenne Ks

Job Ticket: 18048

DST#: 2

ATTN: Curtis Covey

Test Start: 2004.01.02 @ 13:35:14

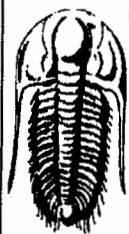
Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|-------------------|------------------------------------|
| Drill Pipe: | Length: 3999.00 ft | Diameter: 3.80 inches | Volume: 56.10 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: 540.00 ft | Diameter: 2.25 inches | Volume: 2.66 bbl | Weight to Pull Loose: 80000.00 lb |
| | | Total Volume: | 58.76 bbl | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 17.00 ft | | | String Weight: Initial 72000.00 lb |
| Depth to Top Packer: | 4544.00 ft | | | Final 72000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 45.00 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 |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Shut In Tool | 5.00 | | | 4527.00 | |
| Hydraulic tool | 5.00 | | | 4532.00 | |
| Safety Joint | 2.00 | | | 4534.00 | |
| Packer | 5.00 | | | 4539.00 | 22.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 4544.00 | |
| Stubb | 1.00 | | | 4545.00 | |
| Recorder | 0.00 | 6799 | Inside | 4545.00 | |
| Perforations | 6.00 | | | 4551.00 | |
| Change Over Sub | 1.00 | | | 4552.00 | |
| Anchor | 31.00 | | | 4583.00 | |
| Change Over Sub | 1.00 | | | 4584.00 | |
| Recorder | 0.00 | 13309 | Outside | 4584.00 | |
| Bullnose | 5.00 | | | 4589.00 | 45.00 Bottom Packers & Anchor |

Total Tool Length: 67.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

Zweygartd #1-2

250 N Water Ste #300
Wichita KS. 67202

2-3S-41W Cheyenne Ks

Job Ticket: 18048

DST#: 2

ATTN: Curtis Covey

Test Start: 2004.01.02 @ 13:35:14

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: 63.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------------|---------------|
| 630.00 | CGO 15%gas 85%oil | 3.918 |
| 90.00 | OCM 25%oil 75%mud | 1.262 |
| | 50 GIP | |

Total Length: 720.00 ft

Total Volume: 5.180 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6799

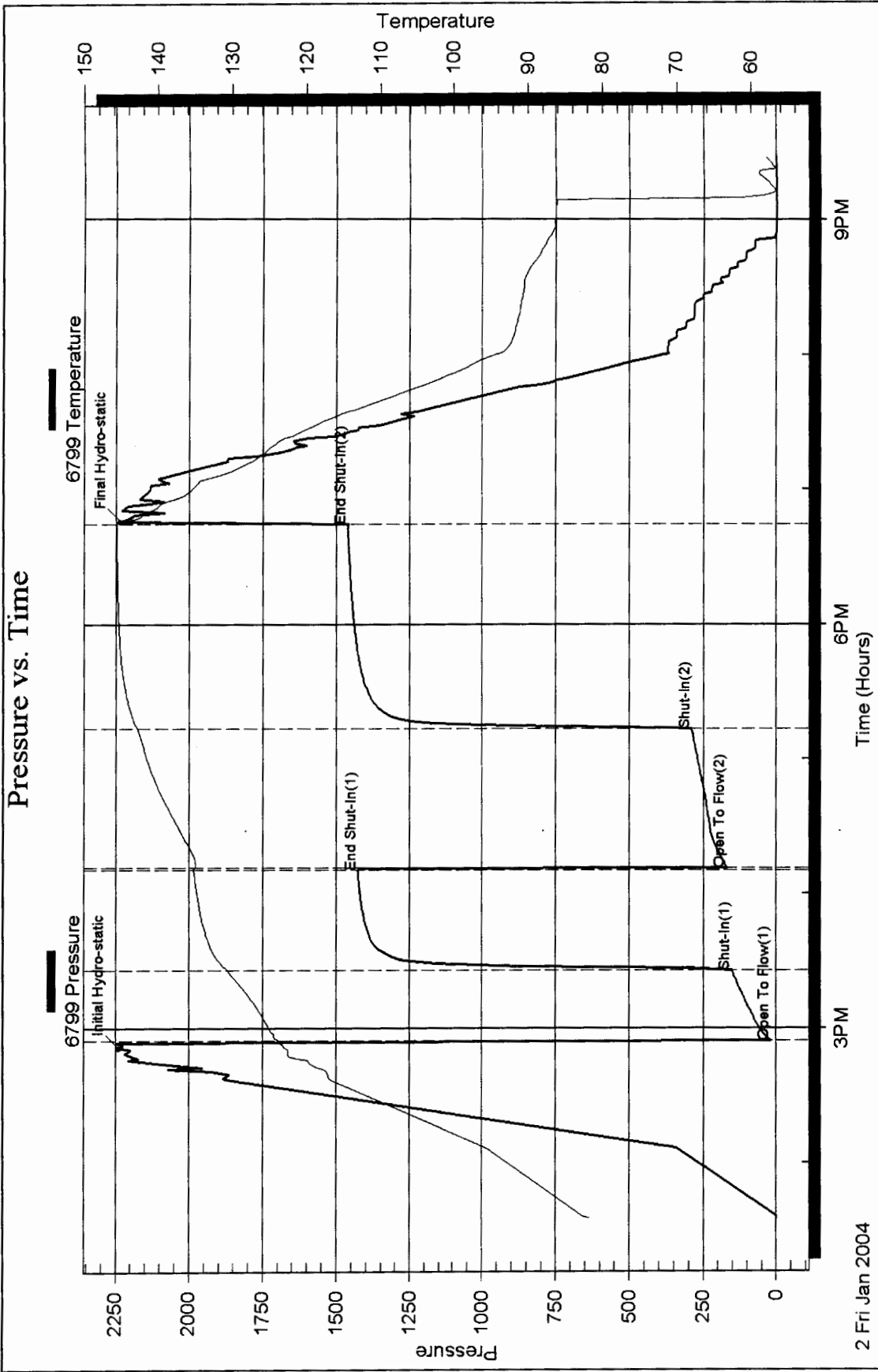
Inside

Murfin Drilling Company Inc

2-3S-41W Cheyenne Ks

DST Test Number: 2

Pressure vs. Time

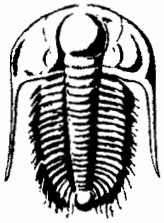


2 Fri Jan 2004

Trilobite Testing, Inc

Ref. No: 18048

Printed: 2004.01.06 @ 15:32:37 Page 5



TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

N^o 18047

05/03

INV 6104

Test Ticket

Well Name & No. Zweygardt #1-2 Test No. 1 Date 1-1-04
 Company Murfin Drilling Company Inc. Zone Tested L/KC 'D'
 Address 250 N. Water Ste #300 Wichita, KS. 67202 Elevation 3530 KB 3525 GL
 Co. Rep / Geo. Curtis Covey Cont. Murfin #3 Est. Ft. of Pay _____ Por. _____ %
 Location: Sec. 2 Twp. 3S Rge. 41^W Co. Cheyenne State KS.
 No. of Copies _____ Distribution Sheet (Y, N) _____ Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested 4386 - 4442 Initial Str Wt./Lbs. 52,000 Unseated Str Wt/Lbs. 52,000
 Anchor Length 56' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 70,000
 Top Packer Depth 4381 Tool Weight 2,500
 Bottom Packer Depth 4386 Hole Size 7 7/8" Rubber Size 6 3/4"
 Total Depth 4442 Wt. Pipe Run _____ Drill Collar Run 540'
 Mud Wt. 9.0 LCM _____ Vis. 63 WL 7.2 Drill Pipe Size 4 1/2" XH Ft. Run 3841'
 Blow Description IF: Weak surface blow built to 1/2"

FF: No return blow.

Recovery - Total Feet 55' GIP _____ Ft. in DC 55' Ft. in DP _____
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 Rec. 55' Feet of Oil Spotted Mud %gas _____ %oil _____ %water _____ %mud
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 BHT 131° °F Gravity _____ °API D @ _____ °F Corrected Gravity _____ °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery _____ Chlorides 700 ppm System

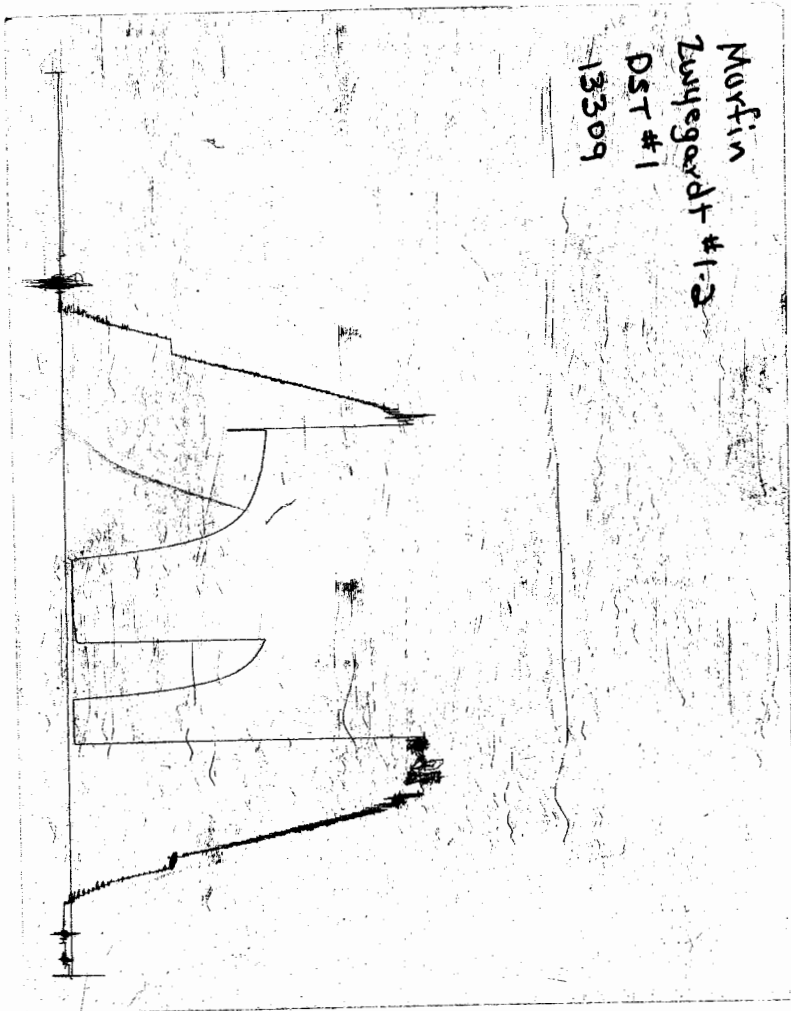
| | AK-1 | Alpine | Recorder No. | Test |
|----------------------------------|-------------|--------|---------------------------|--------------------------------------|
| (A) Initial Hydrostatic Mud | <u>2213</u> | PSI | <u>6799</u> | <u>800</u> |
| (B) First Initial Flow Pressure | <u>13</u> | PSI | (depth) <u>4387</u> | <u>150</u> |
| (C) First Final Flow Pressure | <u>26</u> | PSI | Recorder No. <u>13309</u> | Jars _____ |
| (D) Initial Shut-In Pressure | <u>1272</u> | PSI | (depth) <u>4437</u> | Safety Jt. <u>X</u> <u>50</u> |
| (E) Second Initial Flow Pressure | <u>27</u> | PSI | Recorder No. _____ | Circ Sub <u>X</u> <u>N/C</u> |
| (F) Second Final Flow Pressure | <u>39</u> | PSI | (depth) _____ | Sampler _____ |
| (G) Final Shut-In Pressure | <u>1292</u> | PSI | Initial Opening <u>30</u> | Straddle _____ |
| (Q) Final Hydrostatic Mud | <u>2153</u> | PSI | Initial Shut-In <u>45</u> | Ext. Packer _____ |
| | | | Final Flow <u>60</u> | Shale Packer _____ |
| | | | Final Shut-In <u>90</u> | Mileage <u>1 way 155</u> <u>2350</u> |

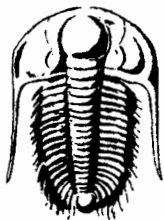
TRILLOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGED OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By [Signature] [Signature]
 Our Representative Rod Steinbrink
 T-On Location D830
 T-Started 1005
 T-Open 1133
 T-Pulled 1523
 T-Out 1720
 T-Off 1800
 Sub Total: 1263.50
 Std. By _____
 Other _____
 Total: _____

CHART PAGE

This is a photocopy of the actual AK-1 recorder chart





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

N^o 18048

05/03

Test Ticket

Well Name & No. Zweygardt # 1-2 Test No. 2 Date 1-2-04
 Company Murfin Drilling Company Inc. Zone Tested L/KC 'J'
 Address 250 N. Water Ste. #300 Wichita, KS. 67202 Elevation 3530 KB 3525 GL
 Co. Rep / Geo. Curtis Covey Cont. Murfin #3 Est. Ft. of Pay _____ Por. _____ %
 Location: Sec. 2 Twp. 3^s Rge. 41^w Co. Murfin #3 State KS.
 No. of Copies _____ Distribution Sheet (Y, N) _____ Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested 4544 - 4599 Initial Str Wt./Lbs. 72,000 Unseated Str Wt/Lbs. 72,000
 Anchor Length 45' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 80,000
 Top Packer Depth 4539 Tool Weight 2,500
 Bottom Packer Depth 4544 Hole Size 7 7/8" Rubber Size 6 3/4"
 Total Depth 4589 Wt. Pipe Run _____ Drill Collar Run 540'
 Mud Wt. 9.2 LCM — Vis. 58 WL 7.6 Drill Pipe Size 4 1/2" x 4 Ft. Run 3999'

Blow Description IF: Fair to strong off btm 23 mins.
ISI: Surface blow built to 1 1/2"
FF: Fair to strong off btm 23 mins.
FSI: Surface blow built to 3 1/2"

Recovery - Total Feet 720' GIP 50' Ft. in DC 540' Ft. in DP 180'
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 Rec. 630' Feet of OCM 15 %gas 85 %oil _____ %water _____ %mud
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 Rec. 90' Feet of OCM %gas 25 %oil — %water 75 %mud
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 BHT 145° °F Gravity 28 °API D @ 70° °F Corrected Gravity 28 °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery _____ Chlorides 1,000 ppm System

| | | | | | |
|----------------------------------|-----------------|-----------------|--------------|--------------|------------------------|
| (A) Initial Hydrostatic Mud | <u>2239</u> PSI | Recorder No. | <u>6799</u> | Test | <u>800</u> |
| (B) First Initial Flow Pressure | <u>17</u> PSI | (depth) | <u>4545</u> | Elec. Rec. | <u>X</u> |
| (C) First Final Flow Pressure | <u>151</u> PSI | Recorder No. | <u>13309</u> | Jars | <u>50</u> |
| (D) Initial Shut-In Pressure | <u>1426</u> PSI | (depth) | <u>4584</u> | Safety Jt. | <u>X</u> |
| (E) Second Initial Flow Pressure | <u>167</u> PSI | Recorder No. | _____ | Circ Sub | <u>X n/c</u> |
| (F) Second Final Flow Pressure | <u>288</u> PSI | (depth) | _____ | Sampler | _____ |
| (G) Final Shut-In Pressure | <u>1460</u> PSI | Initial Opening | <u>30</u> | Straddle | _____ |
| (Q) Final Hydrostatic Mud | <u>2233</u> PSI | Initial Shut-In | <u>45</u> | Ext. Packer | _____ |
| | | Final Flow | <u>60</u> | Shale Packer | _____ |
| | | Final Shut-In | <u>90</u> | Mileage | <u>1 way 10 17</u> |
| | | T-On Location | <u>1300</u> | Sub Total: | <u>1017</u> |
| | | T-Started | <u>1335</u> | Std. By | _____ |
| | | T-Open | <u>1445</u> | Other | <u>9 ext copies 30</u> |
| | | T-Pulled | <u>1844</u> | Total: | <u>1047</u> |
| | | T-Out | <u>2127</u> | | |
| | | T-off | <u>2230</u> | | |

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Approved By _____
 Our Representative Rod Steinbrink

CHART PAGE

This is a photocopy of the actual AK-1 recorder chart

