

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

COPY

Drill-Stem Test Data

Well Name KELLER #1 Test No. 1 Date 9/1/91
Company N-B COMPANY INC Zone Tested 160'
Address P.O. BOX 506 RUSSELL KANSAS 67665 Elevation 2955 KB
Co. Rep./Geo. MIKE DAVIGNON Cont. EMPHASIS #7 Est. Ft. of Pay _____
Location: Sec. 19 Twp. 11S Rge. 31W Co. GOVE state KS

Interval Tested 4070-4155 Drill Pipe Size 4.5 XH
Anchor Length 85 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4065 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 4070
Total Depth 4155

Mud Wt. 9 lb / gal. Viscosity 46 Filtrate 8.8

Tool Open @ '4:48 PM Initial Blow GOOD BLOW -OFF BOTTOM IN 1 MINUTE 45 SECONDS
Final Blow OFF BOTTOM IN 3 MINUTES

Recovery - Total Feet 1935 Flush Tool? NO

Rec. 1935 Feet of WATER
Rec. _____ Feet of _____
Rec. _____ Feet of _____
Rec. _____ Feet of _____
Rec. _____ Feet of _____
BHT 124 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API

RW 0.08 @ 93 °F Chlorides 70000 ppm Recovery Chlorides 1500 ppm System

(A) Initial Hydrostatic Mud 1955.6 PSI AK1 Recorder No. 13308 Range 4700
(B) First Initial Flow Pressure 102.3 PSI @ (depth) 4095 w/Clock No. 8376
(C) First Final Flow Pressure 550.7 PSI AK1 Recorder No. 2023 Range 4000
(D) Initial Shut-In Pressure 1123.6 PSI @ (depth) 4090 w/Clock No. 27573
(E) Second Initial Flow Pressure 594.8 PSI AK1 Recorder No. _____ Range _____
(F) Second Final Flow Pressure 844.5 PSI @ (depth) _____ w/Clock No. _____
(G) Final Shut-in Pressure 1123.6 PSI Initial Opening 30 Final Flow 30
(H) Final Hydrostatic Mud 1910.4 PSI Initial Shut-in 30 Final Shut-in _____

Our Representative MARK HERSKOWITZ

TOTAL PRICE \$ _____
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STATE CORPORATION COMMISSION
MAY 18 1992
585
CONSERVATION DIVISION
Wichita, Kansas

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

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Drill-Stem Test Data

Well Name KELLER #1 Test No. 2 Date 9/12/91
Company N-B COMPANY INC Zone Tested LKC
Address P.O. BOX 506 RUSSELL KANSAS 67665 Elevation 2955 KB
Co. Rep./Geo. MIKE DAVIGNON Cont. EMPHASIS #7 Est. Ft. of Pay _____
Location: Sec. 19 Twp. 11S Rge. 31W Co. GOVE State KS

Interval Tested 4166-4186 Drill Pipe Size 4.5 XH
Anchor Length 20 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4161 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 4166
Total Depth 4186

Mud Wt. 9 lb / gal. Viscosity 43 Filtrate 8.8

Tool Open @ 6:33 AM Initial Blow WEAK SURFACE BLOW TO 1" IN 30 MINUTES

Final Blow SURFACE BLOW IN 4 MINUTES-DIED-FLUSHED TOOL
BLOW IN 15 SECONDS

Recovery - Total Feet 20 Flush Tool? YES

Rec. 20 Feet of OIL STAINED MUD-1/4%OIL/99 3/4% MUD

Rec. _____ Feet of _____

Rec. _____ Feet of _____

Rec. _____ Feet of _____

Rec. _____ Feet of _____
BHT 118 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API

RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 1500 ppm System

(A) Initial Hydrostatic Mud 1999.1 PSI Ak1 Recorder No. 13308 Range 4700

(B) First Initial Flow Pressure 12.3 PSI @ (depth) 4169 W/Clock No. 27573

(C) First Final Flow Pressure 12.3 PSI AK1 Recorder No. 2023 Range 4000

(D) Initial Shut-in Pressure 844.7 PSI @ (depth) 4181 W/Clock No. 8376

(E) Second initial Flow Pressure 12.3 PSI AK1 Recorder No. _____ Range _____

(F) Second Final Flow Pressure 12.3 PSI @ (depth) _____ W/Clock No. _____

(G) Final Shut-in Pressure _____ PSI Initial Opening 30 Final Flow 15

(H) Final Hydrostatic Mud 1977.6 PSI Initial Shut-in 30 Final Shut-in _____

Our Representative MARK HERSKOWITZ

TOTAL PRICE \$ _____
550
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Wichita, Kansas

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Drill-Stem Test Data

Name KELLER #1 Test No. 3 Date 9/12/91
Company N-B COMPANY INC Zone Tested LKC
Address P.O. BOX 506 RUSSELL KANSAS 67665 Elevation 2955 KB
Rep./Geo. MIKE DAVIGNON Cont. EMPHASIS #7 Est. Ft. of Pay _____
Location: Sec. 19 Twp. 11S Rge. 31W Co. GOVE State KS

Interval Tested 4190-4265 Drill Pipe Size 4.5 XH
Packer Length 75 Wt. Pipe I.D. - 2.7 Ft. Run _____
Packer Depth 4185 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 4190
Total Depth 4265

Mud Wt. 9.1 lb / gal. Viscosity 43 Filtrate 8.5

Time of Open @ 9:07 PM Initial Blow WEAK SURFACE BLOW TO 1 1/4" IN 30 MINUTES

Final Blow WEAK SURFACE BLOW TO 3 1/4" IN 9.0 MINUTES
REPAIRED DRAW WORKS - 36 MINUTES

Recovery - Total Feet 40 Flush Tool? NO

80 Feet of GAS IN PIPE

40 Feet of _____

40 Feet of GSY OIL CUT MUD-1%GAS/15%OIL/84% MUD

 Feet of _____

120 Feet of _____

°F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API

@ _____ °F Chlorides _____ ppm Recovery Chlorides 6500 ppm System

Initial Hydrostatic Mud 2060.3 PSI Ak1 Recorder No. 13308 Range 4700

First Initial Flow Pressure 40.6 PSI @ (depth) _____ w/Clock No. 27573

First Final Flow Pressure 40.6 PSI Ak1 Recorder No. 2023 Range 4000

Initial Shut-In Pressure 1025.7 PSI @ (depth) _____ w/Clock No. 8376

Second Initial Flow Pressure 51.7 PSI Ak1 Recorder No. _____ Range _____

Second Final Flow Pressure 51.7 PSI @ (depth) _____ w/Clock No. _____

Final Shut-In Pressure 902.3 PSI Initial Opening 30 Final Flow 96

Hydrostatic Mud 2033.4 PSI Initial Shut-In 30 Final Shut-In _____

Representative MARK HERSKOWITZ

TOTAL PRICE \$ 550

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Drill-Stem Test Data

Well Name KELLER #1 Test No. 4 Date 9/13/91
Company N-B COMPANY INC Zone Tested MARMATON
Address P.O. BOX 506 RUSSELL KANSAS 67665 Elevation 2955 KB
Co. Rep./Geo. MIKE DAVIGNON cont. EMPHASIS #7 Est. Ft. of Pay 4
Location: Sec. 19 Twp. 11S Rge. 31W Co. GOVE State KS

Interval Tested 4264-4343 Drill Pipe Size 4.5 XH
Anchor Length 79 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4259 Drill Collar — 2.25 Ft. Run _____
Bottom Packer Depth 4264
Total Depth 4343

Mud Wt. 9.2 lb / gal. Viscosity 45 Filtrate 10.4

Tool Open @ 4:12 PM Initial Blow STRONG BLOW-OFF BOTTOM OF BUCKET IN 6 MIN-BLED
THROUGH 2" / ISI : WEAK SURFACE BLOW-STEADY THROUGHOUT
Final Blow STRONG BLOW-OFF BOTTOM OF BUCKET IN 5 MIN-BLED THROUGH
2" / FSI: WEAK BLOW BUILT TO 3" IN 30 MIN

Recovery — Total Feet 270 Flush Tool? NO

Rec. 1500 Feet of GAS IN PIPE

Rec. _____ Feet of _____

Rec. 90 Feet of CLEAN GASSY OIL-10%GAS/90%OIL

Rec. 180 Feet of MUDDY OIL-10%GAS/80%OIL/10%MUD

Rec. _____ Feet of _____
BHT 121 °F Gravity 40 °API @ 78 °F Corrected Gravity 39 °API

RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 4000 ppm System

(A) Initial Hydrostatic Mud 2168 PSI Ak1 Recorder No. 13308 Range 4700

(B) First Initial Flow Pressure 73.6 PSI @ (depth) 4268 w/Clock No. 27573

(C) First Final Flow Pressure 122.2 PSI Ak1 Recorder No. 2023 Range 4000

(D) Initial Shut-in Pressure 1148.9 PSI @ (depth) 4340 w/Clock No. 8376

(E) Second Initial Flow Pressure 137.1 PSI Ak1 Recorder No. _____ Range _____

(F) Second Final Flow Pressure 173.2 PSI @ (depth) _____ w/Clock No. _____

(G) Final Shut-in Pressure 1034.7 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 2133.7 PSI Initial Shut-in 30 Final Shut-in 30

Our Representative LEWAYNE TRESNER

TOTAL PRICE \$ MAY 158 1992

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Drill-Stem Test Data

Well Name KELLER #1 Test No. 5 Date 9/14/91
Company N-B COMPANY INC Zone Tested PAWNEE
Address P.O. BOX 506 RUSSELL KANSAS 67665 Elevation 2955 KB
Geol. Rep./Geo. MIKE DAVIGNON Cont. EMPHASIS #7 Est. Ft. of Pay _____
Location: Sec. 19 Twp. 11S Rge. 31W Co. GOVE State KS

Interval Tested 4367-4390 Drill Pipe Size 4.5 XH
Anchor Length 23 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4362 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 4367
Total Depth 4390

Fluid Wt. 9.2 lb / gal. Viscosity 45 Filtrate 10.4

Well Open @ 6:38 Initial Blow STRONG BLOW-OFF BOTTOM OF BUCKET (23 MINUTES)
PSI: BLED THROUGH 2" - NO BLOW BACK ON SHUT IN
Final Blow STRONG BLOW - BUILT TO 9" (30 MINUTES)
PSI: BLED THROUGH 2" - NO BLOW BACK ON SHUT IN

Recovery - Total Feet 850 Flush Tool? NO

850 Feet of SALT WATER

_____ Feet of _____

_____ Feet of _____

_____ Feet of _____

_____ Feet of _____

123 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API

0.11 @ 70 °F Chlorides 70000 ppm Recovery Chlorides 4000 ppm System

Initial Hydrostatic Mud 2278.9 PSI AK1 Recorder No. 13308 Range 4700

First Initial Flow Pressure 40.6 PSI @ (depth) 4371 w/Clock No. 27573

First Final Flow Pressure 102.5 PSI AK1 Recorder No. 2023 Range 4000

Initial Shut-In Pressure 1124.6 PSI @ (depth) 4387 w/Clock No. 8376

Second Initial Flow Pressure 126.3 PSI AK1 Recorder No. _____ Range _____

Second Final Flow Pressure 180.9 PSI @ (depth) _____ w/Clock No. _____

Final Shut-In Pressure 986.3 PSI Initial Opening 30 Final Flow _____

Hydrostatic Mud 2244.7 PSI Initial Shut-In 30 Final Shut-In _____

Representative LEWAYNE TRESNER

TOTAL PRICE \$ 550

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30
MAY 18 1992
CONSERVATION DIVISION
Wichita, Kansas

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

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Drill-Stem Test Data

Well Name KELLER #1 Test No. 6 Date 9/14/91
Company N-B COMPANY INC Zone Tested PAWNEE
Address P.O. BOX 506 RUSSELL KANSAS 67665 Elevation 2955 KB
Co. Rep./Geo. MIKE DAVIGNON Cont. EMPHASIS #7 Est. Ft. of Pay _____
Location: Sec. 19 Twp. 11S Rge. 31W Co. GOVE State KS

Interval Tested 4408-4438 Drill Pipe Size 4.5 XH
Anchor Length 30 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4403 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 4408
Total Depth 4438

Mud Wt. 9.2 lb / gal. Viscosity 51 Filtrate 10.8

Tool Open @ 7:38 PM Initial Blow TOOL OPEN-NO SURGE-FLUSHED TOOL-NO SURGE

Final Blow _____

Recovery -- Total Feet 5 Flush Tool? YES

Rec. 5 Feet of EXTREMELY THICK MUD

Rec. _____ Feet of _____

Rec. _____ Feet of _____

Rec. _____ Feet of _____

Rec. _____ Feet of _____

BHT N/A °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API

RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 6500 ppm System

(A) Initial Hydrostatic Mud 2278.9 PSI AK1 Recorder No. 13308 Range 4700

(B) First Initial Flow Pressure 40.6 PSI @ (depth) 4412 w/Clock No. 27573

(C) First Final Flow Pressure 51.7 PSI AK1 Recorder No. 2023 Range 4000

(D) Initial Shut-in Pressure _____ PSI @ (depth) 4435 w/Clock No. 8376

(E) Second Initial Flow Pressure _____ PSI AK1 Recorder No. _____ Range _____

(F) Second Final Flow Pressure _____ PSI @ (depth) _____ w/Clock No. _____

(G) Final Shut-in Pressure _____ PSI Initial Opening _____ Final Flow _____

(H) Final Hydrostatic Mud 2218.4 PSI Initial Shut-in _____ Final _____

Our Representative LEWAYNE TRESNER

TOTAL PRICE \$ MAY 18 1992
530

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CONSERVATION DIVISION
Wichita, Kansas

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

COPY

Drill-Stem Test Data

Well Name KELLER #1 Test No. _____ Date 9/15/91
Company N-B COMPANY INC Zone Tested CHEROKEE
Address P.O. BOX 506 RUSSELL KANSAS 67665 Elevation 2955 KB
Co. Rep./Geo. MIKE DAVIGNON Cont. EMPHASIS #7 Est. Ft. of Pay _____
Location: Sec. 19 Twp. 11S Rge. 31W Co. GOVE State KS

Interval Tested 4495-4550 Drill Pipe Size 4.5 XH
Anchor Length 55 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4490 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 4495
Total Depth 4550

Mud Wt. 9.3 lb / gal. Viscosity 45 Filtrate 8.8

Tool Open @ 4:02 PM Initial Blow WEAK BLOW BUILT TO 1 1/2" (30 MINO
ISI: BLED THROUGH 2" -NO BLOW BACK ON SHUT IN
Final Blow WEAK SURFACE BLOW-STAYED STEADY THROUGHOUT OPENING (30 M
PSI: BLED THROUGH 2" -NO BLOW BACK ON SHUT IN

Recovery — Total Feet 20 Flush Tool? NO

Rec. 20 Feet of OIL STAINED MUD

Rec. _____ Feet of _____

Rec. _____ Feet of _____

Rec. _____ Feet of _____

Rec. _____ Feet of _____

BHT 124 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API

RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 3800 ppm System

(A) Initial Hydrostatic Mud 2322.6 PSI AK1 Recorder No. 13308 Range 4700

(B) First Initial Flow Pressure 51.7 PSI @ (depth) 4500 w/Clock No. 27573

(C) First Final Flow Pressure 51.7 PSI AK1 Recorder No. 2023 Range 4000

(D) Initial Shut-In Pressure 315.6 PSI @ (depth) 4547 w/Clock No. 8376

(E) Second Initial Flow Pressure 63.5 PSI AK1 Recorder No. _____ Range _____

(F) Second Final Flow Pressure 63.5 PSI @ (depth) _____ w/Clock No. _____

(G) Final Shut-in Pressure 322.4 PSI Initial Opening 30 Final Flow _____

(H) Final Hydrostatic Mud 2274.9 PSI Initial Shut-In 30 Final Shut-In _____

Our Representative LEWAYNE TRESNER

TOTAL PRICE \$ _____

550

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OIL AND GAS COMMISSION
MAY 18 1992
Wichita, Kansas

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

COPY

Drill-Stem Test Data

Well Name KELLER #1 Test No. 8 Date 9/16/91
Company N-B COMPANY INC Zone Tested MARMATON
Address P.O. BOX 506 RUSSELL KANSAS 67665 Elevation 2955 KB
Op. Rep./Geo. MIKE DAVIGNON Cont. EMPHASIS #7 Est. Ft. of Pay 4
Location: Sec. 19 Twp. 11S Rge. 31W Co. GOVE State KS

Interval Tested 4269-4312 Drill Pipe Size 4.5 XH
Anchor Length 43 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4269-4264 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 4315
Total Depth 4610

Mud Wt. 9.0 lb / gal. Viscosity 50 Filtrate 8.4

Well Open @ 4:25pm Initial Blow STRONG BLOW OFF BOTTOM OF BUCKET IN 7 MINUTES
ISI: bled through 2: NO BLOW BACK ON SHUT IN
Final Blow STRONG BLOW OFF BOTTOM OF BUCKET IN 11 MINUTES
FSI: bled through 2" WEAK SURFACE BLOW DIED OUT IN 71 MINUTES

Recovery - Total Feet 660 Flush Tool? NO

65 Feet of GAS IN PIPE

660 Feet of OIL CUT MUD 30%GAS/20%OIL/50%MUD

_____ Feet of _____

_____ Feet of _____

_____ Feet of _____

T 124 °F Gravity _____ °API @ _____ °F Corrected Gravity 39 °API

@ _____ °F Chlorides _____ ppm Recovery Chlorides 3800 ppm System

Initial Hydrostatic Mud 2215.6 PSI Ak1 Recorder No. 13308 Range 4700

First Initial Flow Pressure 68.1 PSI @ (depth) _____ 4273 w/Clock No. 27573

First Final Flow Pressure 139 PSI AK1 Recorder No. 2023 Range 4000

Initial Shut-In Pressure 1124.6 PSI @ (depth) _____ 4290 w/Clock No. 8376

Second Initial Flow Pressure 177.4 PSI AK1 Recorder No. 10248 Range 4400

Second Final Flow Pressure 289.6 PSI @ (depth) _____ 4607 w/Clock No. 25810

Final Shut-In Pressure 1023.7 PSI Initial Opening 30 Final Flow 60

Initial Hydrostatic Mud 2151.7 PSI Initial Shut-in 60 Final Shut-In _____

Representative LEWAYNE TRESNER

TOTAL PRICE \$ _____

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STATE CORPORATION COMMISSION

MAY 18 1992
950

CONSERVATION DIVISION
Wichita, Kansas