

**WELL NAME:** Titus #2  
**COMPANY:** Abercrombie Drilling Inc.  
**LOCATION:** 26-20S-35W  
Wichita County Kansas  
**DATE:** 08/27/97

TRILOBITE TESTING L.L.C.

OPERATOR : Abercrombie Drlg.Inc.

DATE 8-23-97

WELL NAME: Titus #2

KB 3160.00 ft

TICKET NO: 10322

DST #1

LOCATION : 26-20S-35W Wichita KS.

GR 3155.00 ft

FORMATION:

INTERVAL : 4411.00 To 4439.00 ft

TD 4439.00 ft

TEST TYPE: CONVENTIONAL

RECORDER DATA

| Mins              | Field  | 1      | 2      | 3   | 4   | TIME DATA-----         |
|-------------------|--------|--------|--------|-----|-----|------------------------|
| PF 30 Rec.        | 13339  | 13339  | 2346   |     |     | PF Fr. 0425 to 0455 hr |
| SI 45 Range(Psi ) | 4025.0 | 4025.0 | 4995.0 | 0.0 | 0.0 | IS Fr. 0455 to 0540 hr |
| SF 60 Clock(hrs)  | 12 HR  | 12 HR  | Elec   |     |     | SF Fr. 0540 to 0640 hr |
| FS 45 Depth(ft )  | 4434.0 | 4434.0 | 4412.0 | 0.0 | 0.0 | FS Fr. 0640 to 0725 hr |

|                | Field  | 1      | 2      | 3   | 4   |                   |
|----------------|--------|--------|--------|-----|-----|-------------------|
| A. Init Hydro  | 2173.0 | 2163.0 | 2153.0 | 0.0 | 0.0 | T STARTED 0210 hr |
| B. First Flow  | 589.0  | 547.0  | 256.0  | 0.0 | 0.0 | T ON BOTM 0423 hr |
| B1. Final Flow | 1130.0 | 1135.0 | 1145.0 | 0.0 | 0.0 | T OPEN 0425 hr    |
| C. In Shut-in  | 1140.0 | 1179.0 | 1170.0 | 0.0 | 0.0 | T PULLED 0725 hr  |
| D. Init Flow   | 1170.0 | 1179.0 | 1153.0 | 0.0 | 0.0 | T OUT 0930 hr     |
| E. Final Flow  | 1170.0 | 1188.0 | 1174.0 | 0.0 | 0.0 |                   |
| F. Fl Shut-in  | 1170.0 | 1195.0 | 1176.0 | 0.0 | 0.0 |                   |
| G. Final Hydro | 2143.0 | 2157.0 | 2116.0 | 0.0 | 0.0 |                   |
| Inside/Outside | 0      | 0      | I      |     |     |                   |

RECOVERY

Tot Fluid 2545.00 ft of 0.00 ft in DC and 2545.00 ft in DP  
 2545.00 ft of Sulfur Water  
 0.00 ft of  
 0.00 ft of  
 0.00 ft of  
 0.00 ft of  
 0.00 ft of  
 0.00 ft of  
 0.00 ft of RW .29 @ 60 deg.  
 SALINITY 26000.00 P.P.M. A.P.I. Gravity 0.00

TOOL DATA-----  
 Tool Wt. 1800.00 lbs  
 Wt Set On Packer 30000.00 lbs  
 Wt Pulled Loose 85000.00 lbs  
 Initial Str Wt 60000.00 lbs  
 Unseated Str Wt 78000.00 lbs  
 Bot Choke 0.75 in  
 Hole Size 8.88 in  
 D Col. ID 0.00 in  
 D. Pipe ID 3.80 in  
 D.C. Length 0.00 ft  
 D.P. Length 4100.00 ft  
 H.W. I.D 2.80 in  
 H.W. Length 319.00 ft

BLOW DESCRIPTION

Initial Flow:  
 Strong blow off bottom in 1 min

Initial Shut In:  
 Bled off blow - no return

Final Flow:  
 Weak blow builte to 9" then decreased  
 to 6"

Final Shut In:  
 Bled off blow - no return

SAMPLES:

SENT TO:

MUD DATA-----  
 Mud Type Chemical  
 Weight 9.10 lb/cf  
 Vis. 53.00 S/L  
 W.L. 11.20 in3  
 F.C. 0.00 in  
 Mud Drop N

Amt. of fill 0.00 ft  
 Btm. H. Temp. 115.00 F  
 Hole Condition Good  
 % Porosity 0.00  
 Packer Size 6.75 in  
 No. of Packers 2  
 Cushion Amt. 0.00  
 Cushion Type  
 Reversed Out Y  
 Tool Chased N  
 Tester Rod Steinbrink  
 Co. Rep. Tom Funk  
 Contr. Abercrombie  
 Rig # 4  
 Unit #  
 Pump T.

Test Successful: Y

\*\*\* TOOL DIAGRAM \*\*\* CONVENTIONAL

WELL NAME: Titus #2

LOCATION : 26-20S-35W Wichita KS.

TICKET No. 10322 D.S.T. No. 1 DATE 8-23-97

TOTAL TOOL TO BOTTOM OF TOP PACKERS ..... 20

INTERVAL TOOL ..... 28

BOTTOM PACKERS AND ANCHOR .....

TOTAL TOOL ..... 48

DRILL COLLAR ANCHOR IN INTERVAL .....

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands Single Total

TOTAL ASSEMBLY ..... 48

D.C. ABOVE TOOLS.Stands Single Total

D.P. ABOVE TOOLS.Stands71 Single Total 4419

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 4467

TOTAL DEPTH ..... 4439

TOTAL DRILL PIPE ABOVE K.B. .... 28

REMARKS:

|                           |      |
|---------------------------|------|
| P.O. SUB 1' Above 120' WP | 4271 |
| C.O. SUB 1'               | 4391 |
| S.I. TOOL 5'              | 4397 |
| HMV 5'                    | 4402 |
| JARS N/A                  |      |
| SAFETY JOINT N/A          |      |
| PACKER 4'                 | 4406 |
| PACKER 5'                 | 4411 |
| DEPTH                     |      |
| STUBB 1'                  | 4412 |
| ANCHOR                    |      |
| Alpine Rec. @ 4412        |      |
| 22' Perf.                 | 4434 |
| T.C.                      |      |
| DEPTH                     |      |
| AK-1 Rec. @ 4434          |      |
| BULLNOSE 5'               |      |
| T.D.                      | 4439 |

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ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10322 DST #1 Titus #2 Abercromie Drlg.Inc.

DATE: 08/23/97 TIME: 02:10:16  
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|                      | Time   | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|----------------------|--------|------------------|-----------------|----------------|-----------|----------|
| ***** Initial Hydro. | 134.50 | 2152.6           | 0.0             | 106.99         |           |          |
| ***** Start Flow 1   | 0.00   | 526.4            | 0.0             | 107.17         |           |          |
|                      | 0.50   | 561.8            | 35.5            | 107.27         |           |          |
|                      | 1.00   | 587.9            | 61.5            | 107.49         |           |          |
|                      | 1.50   | 610.8            | 84.4            | 107.86         |           |          |
|                      | 2.00   | 633.3            | 106.9           | 108.35         |           |          |
|                      | 2.50   | 656.0            | 129.6           | 108.91         |           |          |
|                      | 3.00   | 677.6            | 151.2           | 109.51         |           |          |
|                      | 3.50   | 699.7            | 173.4           | 110.10         |           |          |
|                      | 4.00   | 720.1            | 193.7           | 110.67         |           |          |
|                      | 4.50   | 741.0            | 214.6           | 111.21         |           |          |
|                      | 5.00   | 760.6            | 234.2           | 111.70         |           |          |
|                      | 5.50   | 780.3            | 253.9           | 112.17         |           |          |
|                      | 6.00   | 799.2            | 272.8           | 112.58         |           |          |
|                      | 6.50   | 817.1            | 290.7           | 112.94         |           |          |
|                      | 7.00   | 833.0            | 306.6           | 113.27         |           |          |
|                      | 7.50   | 850.1            | 323.8           | 113.57         |           |          |
|                      | 8.00   | 866.7            | 340.3           | 113.83         |           |          |
|                      | 8.50   | 883.2            | 356.8           | 114.06         |           |          |
|                      | 9.00   | 898.8            | 372.4           | 114.26         |           |          |
|                      | 9.50   | 913.8            | 387.5           | 114.45         |           |          |
|                      | 10.00  | 927.9            | 401.5           | 114.59         |           |          |
|                      | 10.50  | 941.5            | 415.1           | 114.72         |           |          |
|                      | 11.00  | 954.7            | 428.3           | 114.84         |           |          |
|                      | 11.50  | 967.4            | 441.0           | 114.94         |           |          |
|                      | 12.00  | 979.4            | 453.0           | 115.02         |           |          |
|                      | 12.50  | 991.2            | 464.8           | 115.10         |           |          |
|                      | 13.00  | 1002.3           | 475.9           | 115.17         |           |          |
|                      | 13.50  | 1012.6           | 486.2           | 115.23         |           |          |
|                      | 14.00  | 1022.4           | 496.1           | 115.26         |           |          |
|                      | 14.50  | 1031.9           | 505.6           | 115.31         |           |          |
|                      | 15.00  | 1040.8           | 514.4           | 115.34         |           |          |
|                      | 15.50  | 1049.2           | 522.8           | 115.37         |           |          |
|                      | 16.00  | 1057.1           | 530.7           | 115.38         |           |          |
|                      | 16.50  | 1064.6           | 538.2           | 115.40         |           |          |
|                      | 17.00  | 1071.4           | 545.0           | 115.42         |           |          |
|                      | 17.50  | 1077.9           | 551.6           | 115.42         |           |          |
|                      | 18.00  | 1083.9           | 557.5           | 115.43         |           |          |
|                      | 18.50  | 1089.5           | 563.1           | 115.43         |           |          |
|                      | 19.00  | 1094.8           | 568.4           | 115.44         |           |          |
|                      | 19.50  | 1099.5           | 573.1           | 115.45         |           |          |
|                      | 20.00  | 1103.8           | 577.4           | 115.44         |           |          |
|                      | 20.50  | 1108.0           | 581.6           | 115.43         |           |          |
|                      | 21.00  | 1111.6           | 585.2           | 115.44         |           |          |
|                      | 21.50  | 1114.9           | 588.5           | 115.43         |           |          |
|                      | 22.00  | 1118.2           | 591.8           | 115.43         |           |          |
|                      | 22.50  | 1121.0           | 594.6           | 115.43         |           |          |
|                      | 23.00  | 1123.5           | 597.2           | 115.42         |           |          |
|                      | 23.50  | 1125.9           | 599.5           | 115.42         |           |          |
|                      | 24.00  | 1128.4           | 602.0           | 115.37         |           |          |
|                      | 24.50  | 1130.3           | 603.9           | 115.39         |           |          |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10322 DST #1 Titus #2 Abercromie Drlg.Inc.

DATE: 08/23/97

TIME: 02:10:16

|                      | Time  | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|----------------------|-------|------------------|-----------------|----------------|-----------|----------|
|                      | 25.00 | 1132.2           | 605.8           | 115.39         |           |          |
|                      | 25.50 | 1133.8           | 607.4           | 115.39         |           |          |
|                      | 26.00 | 1135.3           | 608.9           | 115.38         |           |          |
|                      | 26.50 | 1136.7           | 610.3           | 115.37         |           |          |
|                      | 27.00 | 1138.1           | 611.7           | 115.36         |           |          |
|                      | 27.50 | 1139.5           | 613.1           | 115.36         |           |          |
|                      | 28.00 | 1140.8           | 614.4           | 115.35         |           |          |
|                      | 28.50 | 1141.8           | 615.4           | 115.33         |           |          |
|                      | 29.00 | 1142.9           | 616.5           | 115.33         |           |          |
|                      | 29.50 | 1143.9           | 617.5           | 115.33         |           |          |
| ***** End Flow 1     | 30.00 | 1144.8           | 618.4           | 115.32         |           |          |
| ***** Start Shutin 1 | 0.00  | 1144.8           | 0.0             | 115.32         | 0.0000    | 1.310    |
|                      | 0.50  | 1145.7           | 0.9             | 115.31         | 61.0000   | 1.313    |
|                      | 1.00  | 1146.5           | 1.7             | 115.31         | 31.0000   | 1.314    |
|                      | 1.50  | 1147.3           | 2.6             | 115.30         | 21.0000   | 1.316    |
|                      | 2.00  | 1148.0           | 3.2             | 115.29         | 16.0000   | 1.318    |
|                      | 2.50  | 1151.1           | 6.3             | 115.28         | 13.0000   | 1.325    |
|                      | 3.00  | 1152.0           | 7.2             | 115.29         | 11.0000   | 1.327    |
|                      | 3.50  | 1152.7           | 7.9             | 115.28         | 9.5714    | 1.329    |
|                      | 4.00  | 1153.3           | 8.6             | 115.27         | 8.5000    | 1.330    |
|                      | 4.50  | 1154.0           | 9.3             | 115.26         | 7.6667    | 1.332    |
|                      | 5.00  | 1154.6           | 9.9             | 115.26         | 7.0000    | 1.333    |
|                      | 5.50  | 1155.2           | 10.5            | 115.26         | 6.4545    | 1.335    |
|                      | 6.00  | 1155.8           | 11.0            | 115.25         | 6.0000    | 1.336    |
|                      | 6.50  | 1156.3           | 11.5            | 115.25         | 5.6154    | 1.337    |
|                      | 7.00  | 1156.7           | 12.0            | 115.25         | 5.2857    | 1.338    |
|                      | 7.50  | 1157.2           | 12.5            | 115.24         | 5.0000    | 1.339    |
|                      | 8.00  | 1157.7           | 12.9            | 115.24         | 4.7500    | 1.340    |
|                      | 8.50  | 1158.1           | 13.3            | 115.23         | 4.5294    | 1.341    |
|                      | 9.00  | 1158.6           | 13.8            | 115.24         | 4.3333    | 1.342    |
|                      | 9.50  | 1158.9           | 14.1            | 115.23         | 4.1579    | 1.343    |
|                      | 10.00 | 1159.3           | 14.6            | 115.23         | 4.0000    | 1.344    |
|                      | 10.50 | 1159.7           | 14.9            | 115.23         | 3.8571    | 1.345    |
|                      | 11.00 | 1160.1           | 15.3            | 115.22         | 3.7273    | 1.346    |
|                      | 11.50 | 1160.4           | 15.7            | 115.21         | 3.6087    | 1.347    |
|                      | 12.00 | 1160.8           | 16.0            | 115.22         | 3.5000    | 1.347    |
|                      | 12.50 | 1161.0           | 16.2            | 115.21         | 3.4000    | 1.348    |
|                      | 13.00 | 1161.3           | 16.6            | 115.20         | 3.3077    | 1.349    |
|                      | 13.50 | 1161.6           | 16.9            | 115.19         | 3.2222    | 1.349    |
|                      | 14.00 | 1161.9           | 17.1            | 115.19         | 3.1429    | 1.350    |
|                      | 14.50 | 1162.2           | 17.5            | 115.18         | 3.0690    | 1.351    |
|                      | 15.00 | 1162.5           | 17.7            | 115.18         | 3.0000    | 1.351    |
|                      | 15.50 | 1162.7           | 18.0            | 115.16         | 2.9355    | 1.352    |
|                      | 16.00 | 1162.9           | 18.2            | 115.16         | 2.8750    | 1.352    |
|                      | 16.50 | 1163.1           | 18.4            | 115.14         | 2.8182    | 1.353    |
|                      | 17.00 | 1163.4           | 18.6            | 115.14         | 2.7647    | 1.353    |
|                      | 17.50 | 1163.6           | 18.8            | 115.13         | 2.7143    | 1.354    |
|                      | 18.00 | 1163.8           | 19.0            | 115.12         | 2.6667    | 1.354    |
|                      | 18.50 | 1163.9           | 19.2            | 115.12         | 2.6216    | 1.355    |
|                      | 19.00 | 1164.1           | 19.4            | 115.10         | 2.5789    | 1.355    |
|                      | 19.50 | 1164.3           | 19.6            | 115.09         | 2.5385    | 1.356    |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10322 DST #1 Titus #2 Abercromie Drlg.Inc.

DATE: 08/23/97

TIME: 02:10:16

| Time  | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|-------|------------------|-----------------|----------------|-----------|----------|
| 20.00 | 1164.6           | 19.9            | 115.07         | 2.5000    | 1.356    |
| 20.50 | 1164.8           | 20.0            | 115.06         | 2.4634    | 1.357    |
| 21.00 | 1164.9           | 20.1            | 115.05         | 2.4286    | 1.357    |
| 21.50 | 1165.0           | 20.2            | 115.03         | 2.3953    | 1.357    |
| 22.00 | 1165.2           | 20.5            | 115.03         | 2.3636    | 1.358    |
| 22.50 | 1165.4           | 20.6            | 115.02         | 2.3333    | 1.358    |
| 23.00 | 1165.6           | 20.8            | 115.01         | 2.3043    | 1.359    |
| 23.50 | 1165.7           | 20.9            | 115.00         | 2.2766    | 1.359    |
| 24.00 | 1165.9           | 21.1            | 114.99         | 2.2500    | 1.359    |
| 24.50 | 1166.0           | 21.3            | 114.97         | 2.2245    | 1.360    |
| 25.00 | 1166.1           | 21.4            | 114.96         | 2.2000    | 1.360    |
| 25.50 | 1166.3           | 21.5            | 114.95         | 2.1765    | 1.360    |
| 26.00 | 1166.4           | 21.7            | 114.94         | 2.1538    | 1.361    |
| 26.50 | 1166.6           | 21.8            | 114.93         | 2.1321    | 1.361    |
| 27.00 | 1166.8           | 22.0            | 114.92         | 2.1111    | 1.361    |
| 27.50 | 1166.9           | 22.2            | 114.90         | 2.0909    | 1.362    |
| 28.00 | 1167.0           | 22.3            | 114.90         | 2.0714    | 1.362    |
| 28.50 | 1167.1           | 22.4            | 114.89         | 2.0526    | 1.362    |
| 29.00 | 1167.3           | 22.5            | 114.86         | 2.0345    | 1.362    |
| 29.50 | 1167.4           | 22.6            | 114.85         | 2.0169    | 1.363    |
| 30.00 | 1167.5           | 22.7            | 114.85         | 2.0000    | 1.363    |
| 30.50 | 1167.6           | 22.9            | 114.84         | 1.9836    | 1.363    |
| 31.00 | 1167.6           | 22.9            | 114.81         | 1.9677    | 1.363    |
| 31.50 | 1167.8           | 23.0            | 114.81         | 1.9524    | 1.364    |
| 32.00 | 1167.9           | 23.1            | 114.80         | 1.9375    | 1.364    |
| 32.50 | 1168.0           | 23.2            | 114.79         | 1.9231    | 1.364    |
| 33.00 | 1168.0           | 23.3            | 114.78         | 1.9091    | 1.364    |
| 33.50 | 1168.2           | 23.4            | 114.77         | 1.8955    | 1.365    |
| 34.00 | 1168.3           | 23.5            | 114.76         | 1.8824    | 1.365    |
| 34.50 | 1168.3           | 23.6            | 114.75         | 1.8696    | 1.365    |
| 35.00 | 1168.5           | 23.7            | 114.74         | 1.8571    | 1.365    |
| 35.50 | 1168.6           | 23.8            | 114.74         | 1.8451    | 1.366    |
| 36.00 | 1168.6           | 23.8            | 114.73         | 1.8333    | 1.366    |
| 36.50 | 1168.7           | 24.0            | 114.71         | 1.8219    | 1.366    |
| 37.00 | 1168.8           | 24.0            | 114.70         | 1.8108    | 1.366    |
| 37.50 | 1168.9           | 24.1            | 114.70         | 1.8000    | 1.366    |
| 38.00 | 1169.0           | 24.2            | 114.69         | 1.7895    | 1.367    |
| 38.50 | 1169.0           | 24.3            | 114.68         | 1.7792    | 1.367    |
| 39.00 | 1169.2           | 24.5            | 114.66         | 1.7692    | 1.367    |
| 39.50 | 1169.3           | 24.5            | 114.66         | 1.7595    | 1.367    |
| 40.00 | 1169.3           | 24.6            | 114.66         | 1.7500    | 1.367    |
| 40.50 | 1169.4           | 24.7            | 114.64         | 1.7407    | 1.368    |
| 41.00 | 1169.5           | 24.8            | 114.63         | 1.7317    | 1.368    |
| 41.50 | 1169.6           | 24.8            | 114.62         | 1.7229    | 1.368    |
| 42.00 | 1169.7           | 24.9            | 114.62         | 1.7143    | 1.368    |
| 42.50 | 1169.7           | 25.0            | 114.61         | 1.7059    | 1.368    |
| 43.00 | 1169.8           | 25.0            | 114.61         | 1.6977    | 1.368    |
| 43.50 | 1169.8           | 25.1            | 114.59         | 1.6897    | 1.369    |
| 44.00 | 1170.0           | 25.2            | 114.59         | 1.6818    | 1.369    |
| 44.50 | 1170.0           | 25.3            | 114.59         | 1.6742    | 1.369    |
| 45.00 | 1170.1           | 25.4            | 114.57         | 1.6667    | 1.369    |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10322 DST #1 Titus #2 Abercromie Drlg.Inc.

DATE: 08/23/97

TIME: 02:10:16

|                     | Time  | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|---------------------|-------|------------------|-----------------|----------------|-----------|----------|
| ***** End Shut-in 1 | 45.50 | 1170.1           | 25.3            | 114.56         | 1.6593    | 1.369    |
| ***** Start Flow 2  | 0.00  | 1153.3           | 0.0             | 114.53         |           |          |
|                     | 0.50  | 1156.1           | 2.7             | 114.55         |           |          |
|                     | 1.00  | 1158.4           | 5.0             | 114.52         |           |          |
|                     | 1.50  | 1160.3           | 7.0             | 114.51         |           |          |
|                     | 2.00  | 1162.1           | 8.8             | 114.49         |           |          |
|                     | 2.50  | 1163.6           | 10.3            | 114.47         |           |          |
|                     | 3.00  | 1164.7           | 11.4            | 114.47         |           |          |
|                     | 3.50  | 1165.6           | 12.3            | 114.46         |           |          |
|                     | 4.00  | 1166.2           | 12.9            | 114.45         |           |          |
|                     | 4.50  | 1166.7           | 13.4            | 114.45         |           |          |
|                     | 5.00  | 1167.2           | 13.8            | 114.44         |           |          |
|                     | 5.50  | 1167.6           | 14.2            | 114.45         |           |          |
|                     | 6.00  | 1168.0           | 14.6            | 114.46         |           |          |
|                     | 6.50  | 1168.1           | 14.7            | 114.46         |           |          |
|                     | 7.00  | 1168.3           | 14.9            | 114.47         |           |          |
|                     | 7.50  | 1168.5           | 15.2            | 114.48         |           |          |
|                     | 8.00  | 1168.8           | 15.4            | 114.49         |           |          |
|                     | 8.50  | 1168.9           | 15.6            | 114.50         |           |          |
|                     | 9.00  | 1169.1           | 15.8            | 114.52         |           |          |
|                     | 9.50  | 1169.2           | 15.9            | 114.54         |           |          |
|                     | 10.00 | 1169.3           | 16.0            | 114.55         |           |          |
|                     | 10.50 | 1169.5           | 16.1            | 114.56         |           |          |
|                     | 11.00 | 1169.6           | 16.2            | 114.57         |           |          |
|                     | 11.50 | 1169.7           | 16.4            | 114.59         |           |          |
|                     | 12.00 | 1169.8           | 16.5            | 114.59         |           |          |
|                     | 12.50 | 1169.9           | 16.6            | 114.61         |           |          |
|                     | 13.00 | 1170.0           | 16.7            | 114.61         |           |          |
|                     | 13.50 | 1170.1           | 16.8            | 114.62         |           |          |
|                     | 14.00 | 1170.3           | 17.0            | 114.61         |           |          |
|                     | 14.50 | 1170.3           | 17.0            | 114.61         |           |          |
|                     | 15.00 | 1170.4           | 17.1            | 114.62         |           |          |
|                     | 15.50 | 1170.6           | 17.3            | 114.62         |           |          |
|                     | 16.00 | 1170.6           | 17.3            | 114.62         |           |          |
|                     | 16.50 | 1170.8           | 17.4            | 114.62         |           |          |
|                     | 17.00 | 1170.8           | 17.5            | 114.61         |           |          |
|                     | 17.50 | 1170.9           | 17.6            | 114.61         |           |          |
|                     | 18.00 | 1171.0           | 17.7            | 114.61         |           |          |
|                     | 18.50 | 1171.0           | 17.6            | 114.60         |           |          |
|                     | 19.00 | 1171.1           | 17.8            | 114.60         |           |          |
|                     | 19.50 | 1171.2           | 17.8            | 114.59         |           |          |
|                     | 20.00 | 1171.3           | 18.0            | 114.58         |           |          |
|                     | 20.50 | 1171.3           | 18.0            | 114.58         |           |          |
|                     | 21.00 | 1171.4           | 18.0            | 114.57         |           |          |
|                     | 21.50 | 1171.5           | 18.1            | 114.56         |           |          |
|                     | 22.00 | 1171.6           | 18.2            | 114.56         |           |          |
|                     | 22.50 | 1171.5           | 18.2            | 114.56         |           |          |
|                     | 23.00 | 1171.6           | 18.3            | 114.56         |           |          |
|                     | 23.50 | 1171.7           | 18.3            | 114.55         |           |          |
|                     | 24.00 | 1171.8           | 18.4            | 114.55         |           |          |
|                     | 24.50 | 1171.8           | 18.5            | 114.55         |           |          |

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 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10322 DST #1 Titus #2 Abercromie Drlg.Inc.

DATE: 08/23/97

TIME: 02:10:16  
 -----

| Time  | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|-------|------------------|-----------------|----------------|-----------|----------|
| 25.00 | 1171.9           | 18.5            | 114.55         |           |          |
| 25.50 | 1171.9           | 18.6            | 114.55         |           |          |
| 26.00 | 1172.0           | 18.6            | 114.55         |           |          |
| 26.50 | 1172.0           | 18.7            | 114.55         |           |          |
| 27.00 | 1172.0           | 18.7            | 114.55         |           |          |
| 27.50 | 1172.1           | 18.8            | 114.55         |           |          |
| 28.00 | 1172.1           | 18.8            | 114.56         |           |          |
| 28.50 | 1172.2           | 18.9            | 114.56         |           |          |
| 29.00 | 1172.3           | 19.0            | 114.57         |           |          |
| 29.50 | 1172.3           | 19.0            | 114.58         |           |          |
| 30.00 | 1172.4           | 19.0            | 114.58         |           |          |
| 30.50 | 1172.4           | 19.1            | 114.59         |           |          |
| 31.00 | 1172.5           | 19.2            | 114.60         |           |          |
| 31.50 | 1172.5           | 19.1            | 114.60         |           |          |
| 32.00 | 1172.5           | 19.2            | 114.60         |           |          |
| 32.50 | 1172.6           | 19.3            | 114.61         |           |          |
| 33.00 | 1172.7           | 19.3            | 114.61         |           |          |
| 33.50 | 1172.7           | 19.4            | 114.62         |           |          |
| 34.00 | 1172.7           | 19.4            | 114.64         |           |          |
| 34.50 | 1172.8           | 19.4            | 114.63         |           |          |
| 35.00 | 1172.8           | 19.5            | 114.65         |           |          |
| 35.50 | 1172.9           | 19.6            | 114.65         |           |          |
| 36.00 | 1172.9           | 19.6            | 114.65         |           |          |
| 36.50 | 1173.0           | 19.6            | 114.66         |           |          |
| 37.00 | 1173.0           | 19.7            | 114.66         |           |          |
| 37.50 | 1173.2           | 19.8            | 114.66         |           |          |
| 38.00 | 1173.1           | 19.8            | 114.66         |           |          |
| 38.50 | 1173.2           | 19.8            | 114.66         |           |          |
| 39.00 | 1173.2           | 19.9            | 114.67         |           |          |
| 39.50 | 1173.2           | 19.8            | 114.66         |           |          |
| 40.00 | 1173.2           | 19.9            | 114.66         |           |          |
| 40.50 | 1173.3           | 19.9            | 114.66         |           |          |
| 41.00 | 1173.4           | 20.0            | 114.66         |           |          |
| 41.50 | 1173.4           | 20.0            | 114.65         |           |          |
| 42.00 | 1173.4           | 20.1            | 114.65         |           |          |
| 42.50 | 1173.5           | 20.1            | 114.64         |           |          |
| 43.00 | 1173.5           | 20.1            | 114.65         |           |          |
| 43.50 | 1173.5           | 20.2            | 114.64         |           |          |
| 44.00 | 1173.5           | 20.2            | 114.63         |           |          |
| 44.50 | 1173.6           | 20.3            | 114.63         |           |          |
| 45.00 | 1173.6           | 20.3            | 114.62         |           |          |
| 45.50 | 1173.6           | 20.3            | 114.62         |           |          |
| 46.00 | 1173.7           | 20.4            | 114.61         |           |          |
| 46.50 | 1173.7           | 20.4            | 114.60         |           |          |
| 47.00 | 1173.7           | 20.4            | 114.60         |           |          |
| 47.50 | 1173.8           | 20.5            | 114.60         |           |          |
| 48.00 | 1173.9           | 20.5            | 114.60         |           |          |
| 48.50 | 1173.9           | 20.5            | 114.58         |           |          |
| 49.00 | 1173.9           | 20.6            | 114.58         |           |          |
| 49.50 | 1173.9           | 20.6            | 114.57         |           |          |
| 50.00 | 1174.0           | 20.6            | 114.57         |           |          |

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 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10322 DST #1 Titus #2 Abercromie Drlg.Inc.

DATE: 08/23/97

TIME: 02:10:16  
 -----

|                      | Time  | Pressure<br>PSig | delta P<br>PSig | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|----------------------|-------|------------------|-----------------|----------------|-----------|----------|
|                      | 50.50 | 1174.0           | 20.7            | 114.56         |           |          |
|                      | 51.00 | 1174.0           | 20.7            | 114.56         |           |          |
|                      | 51.50 | 1174.0           | 20.7            | 114.54         |           |          |
|                      | 52.00 | 1174.0           | 20.7            | 114.55         |           |          |
|                      | 52.50 | 1174.1           | 20.8            | 114.54         |           |          |
|                      | 53.00 | 1174.1           | 20.8            | 114.53         |           |          |
|                      | 53.50 | 1174.2           | 20.8            | 114.54         |           |          |
|                      | 54.00 | 1174.2           | 20.9            | 114.52         |           |          |
|                      | 54.50 | 1174.2           | 20.9            | 114.51         |           |          |
|                      | 55.00 | 1174.3           | 20.9            | 114.51         |           |          |
|                      | 55.50 | 1174.3           | 20.9            | 114.51         |           |          |
|                      | 56.00 | 1174.3           | 20.9            | 114.50         |           |          |
|                      | 56.50 | 1174.3           | 21.0            | 114.50         |           |          |
|                      | 57.00 | 1174.4           | 21.0            | 114.49         |           |          |
|                      | 57.50 | 1174.4           | 21.1            | 114.49         |           |          |
|                      | 58.00 | 1174.5           | 21.2            | 114.48         |           |          |
|                      | 58.50 | 1174.6           | 21.2            | 114.48         |           |          |
|                      | 59.00 | 1174.5           | 21.2            | 114.47         |           |          |
|                      | 59.50 | 1174.5           | 21.2            | 114.46         |           |          |
| ***** End Flow 2     | 60.00 | 1174.6           | 21.2            | 114.46         |           |          |
| ***** Start Shutin 2 | 0.00  | 1174.6           | 0.0             | 114.46         | 0.0000    | 1.380    |
|                      | 0.50  | 1174.6           | 0.0             | 114.46         | 181.0000  | 1.380    |
|                      | 1.00  | 1174.7           | 0.1             | 114.45         | 91.0000   | 1.380    |
|                      | 1.50  | 1174.7           | 0.1             | 114.45         | 61.0000   | 1.380    |
|                      | 2.00  | 1174.7           | 0.2             | 114.45         | 46.0000   | 1.380    |
|                      | 2.50  | 1174.8           | 0.2             | 114.44         | 37.0000   | 1.380    |
|                      | 3.00  | 1174.8           | 0.2             | 114.44         | 31.0000   | 1.380    |
|                      | 3.50  | 1174.8           | 0.2             | 114.43         | 26.7143   | 1.380    |
|                      | 4.00  | 1174.8           | 0.2             | 114.42         | 23.5000   | 1.380    |
|                      | 4.50  | 1174.8           | 0.3             | 114.41         | 21.0000   | 1.380    |
|                      | 5.00  | 1174.9           | 0.3             | 114.41         | 19.0000   | 1.380    |
|                      | 5.50  | 1174.9           | 0.3             | 114.41         | 17.3636   | 1.380    |
|                      | 6.00  | 1174.9           | 0.3             | 114.40         | 16.0000   | 1.380    |
|                      | 6.50  | 1175.0           | 0.4             | 114.40         | 14.8462   | 1.381    |
|                      | 7.00  | 1175.0           | 0.4             | 114.39         | 13.8571   | 1.381    |
|                      | 7.50  | 1175.0           | 0.4             | 114.39         | 13.0000   | 1.381    |
|                      | 8.00  | 1175.0           | 0.5             | 114.38         | 12.2500   | 1.381    |
|                      | 8.50  | 1175.0           | 0.5             | 114.39         | 11.5882   | 1.381    |
|                      | 9.00  | 1175.1           | 0.6             | 114.38         | 11.0000   | 1.381    |
|                      | 9.50  | 1175.1           | 0.6             | 114.38         | 10.4737   | 1.381    |
|                      | 10.00 | 1175.2           | 0.6             | 114.37         | 10.0000   | 1.381    |
|                      | 10.50 | 1175.2           | 0.7             | 114.37         | 9.5714    | 1.381    |
|                      | 11.00 | 1175.2           | 0.6             | 114.37         | 9.1818    | 1.381    |
|                      | 11.50 | 1175.1           | 0.6             | 114.36         | 8.8261    | 1.381    |
|                      | 12.00 | 1175.2           | 0.6             | 114.35         | 8.5000    | 1.381    |
|                      | 12.50 | 1175.2           | 0.7             | 114.36         | 8.2000    | 1.381    |
|                      | 13.00 | 1175.2           | 0.6             | 114.35         | 7.9231    | 1.381    |
|                      | 13.50 | 1175.2           | 0.7             | 114.35         | 7.6667    | 1.381    |
|                      | 14.00 | 1175.3           | 0.8             | 114.34         | 7.4286    | 1.381    |
|                      | 14.50 | 1175.3           | 0.8             | 114.34         | 7.2069    | 1.381    |
|                      | 15.00 | 1175.4           | 0.8             | 114.34         | 7.0000    | 1.382    |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10322 DST #1 Titus #2 Abercromie Drlg.Inc.

DATE: 08/23/97

TIME: 02:10:16

| Time  | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|-------|------------------|-----------------|----------------|-----------|----------|
| 15.50 | 1175.4           | 0.9             | 114.33         | 6.8065    | 1.382    |
| 16.00 | 1175.4           | 0.8             | 114.33         | 6.6250    | 1.382    |
| 16.50 | 1175.4           | 0.9             | 114.32         | 6.4545    | 1.382    |
| 17.00 | 1175.5           | 1               | 114.32         | 6.2941    | 1.382    |
| 17.50 | 1175.5           | 1               | 114.32         | 6.1429    | 1.382    |
| 18.00 | 1175.5           | 0.9             | 114.32         | 6.0000    | 1.382    |
| 18.50 | 1175.6           | 1.0             | 114.31         | 5.8649    | 1.382    |
| 19.00 | 1175.6           | 1.0             | 114.31         | 5.7368    | 1.382    |
| 19.50 | 1175.5           | 1               | 114.30         | 5.6154    | 1.382    |
| 20.00 | 1175.6           | 1.1             | 114.30         | 5.5000    | 1.382    |
| 20.50 | 1175.7           | 1.1             | 114.30         | 5.3902    | 1.382    |
| 21.00 | 1175.6           | 1.1             | 114.29         | 5.2857    | 1.382    |
| 21.50 | 1175.7           | 1.1             | 114.29         | 5.1860    | 1.382    |
| 22.00 | 1175.7           | 1.2             | 114.29         | 5.0909    | 1.382    |
| 22.50 | 1175.7           | 1.2             | 114.28         | 5.0000    | 1.382    |
| 23.00 | 1175.8           | 1.2             | 114.29         | 4.9130    | 1.382    |
| 23.50 | 1175.7           | 1.2             | 114.28         | 4.8298    | 1.382    |
| 24.00 | 1175.8           | 1.2             | 114.27         | 4.7500    | 1.382    |
| 24.50 | 1175.8           | 1.2             | 114.28         | 4.6735    | 1.382    |
| 25.00 | 1175.8           | 1.2             | 114.28         | 4.6000    | 1.382    |
| 25.50 | 1175.8           | 1.2             | 114.27         | 4.5294    | 1.383    |
| 26.00 | 1175.9           | 1.3             | 114.26         | 4.4615    | 1.383    |
| 26.50 | 1175.9           | 1.3             | 114.26         | 4.3962    | 1.383    |
| 27.00 | 1175.8           | 1.3             | 114.26         | 4.3333    | 1.383    |
| 27.50 | 1175.9           | 1.4             | 114.26         | 4.2727    | 1.383    |
| 28.00 | 1176.0           | 1.4             | 114.25         | 4.2143    | 1.383    |
| 28.50 | 1175.9           | 1.4             | 114.25         | 4.1579    | 1.383    |
| 29.00 | 1176.1           | 1.5             | 114.25         | 4.1034    | 1.383    |
| 29.50 | 1176.1           | 1.5             | 114.25         | 4.0508    | 1.383    |
| 30.00 | 1176.1           | 1.5             | 114.25         | 4.0000    | 1.383    |
| 30.50 | 1176.1           | 1.5             | 114.24         | 3.9508    | 1.383    |
| 31.00 | 1176.1           | 1.5             | 114.24         | 3.9032    | 1.383    |
| 31.50 | 1176.1           | 1.5             | 114.23         | 3.8571    | 1.383    |
| 32.00 | 1176.1           | 1.5             | 114.23         | 3.8125    | 1.383    |
| 32.50 | 1176.1           | 1.5             | 114.23         | 3.7692    | 1.383    |
| 33.00 | 1176.1           | 1.6             | 114.24         | 3.7273    | 1.383    |
| 33.50 | 1176.2           | 1.6             | 114.23         | 3.6866    | 1.383    |
| 34.00 | 1176.1           | 1.5             | 114.23         | 3.6471    | 1.383    |
| 34.50 | 1176.1           | 1.6             | 114.23         | 3.6087    | 1.383    |
| 35.00 | 1176.2           | 1.7             | 114.22         | 3.5714    | 1.384    |
| 35.50 | 1176.2           | 1.6             | 114.22         | 3.5352    | 1.383    |
| 36.00 | 1176.3           | 1.7             | 114.21         | 3.5000    | 1.384    |
| 36.50 | 1176.3           | 1.7             | 114.21         | 3.4658    | 1.384    |
| 37.00 | 1176.2           | 1.7             | 114.21         | 3.4324    | 1.384    |
| 37.50 | 1176.2           | 1.7             | 114.20         | 3.4000    | 1.384    |
| 38.00 | 1176.3           | 1.7             | 114.21         | 3.3684    | 1.384    |
| 38.50 | 1176.3           | 1.7             | 114.20         | 3.3377    | 1.384    |
| 39.00 | 1176.3           | 1.8             | 114.20         | 3.3077    | 1.384    |
| 39.50 | 1176.3           | 1.8             | 114.20         | 3.2785    | 1.384    |
| 40.00 | 1176.4           | 1.8             | 114.20         | 3.2500    | 1.384    |
| 40.50 | 1176.4           | 1.8             | 114.18         | 3.2222    | 1.384    |

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 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10322 DST #1 Titus #2 Abercromie Drlg.Inc.

DATE: 08/23/97                      TIME: 02:10:16  
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|                     | Time   | Pressure<br>PSig | delta P<br>PSig | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|---------------------|--------|------------------|-----------------|----------------|-----------|----------|
|                     | 41.00  | 1176.4           | 1.8             | 114.18         | 3.1951    | 1.384    |
|                     | 41.50  | 1176.4           | 1.8             | 114.19         | 3.1687    | 1.384    |
|                     | 42.00  | 1176.4           | 1.8             | 114.18         | 3.1429    | 1.384    |
|                     | 42.50  | 1176.4           | 1.8             | 114.17         | 3.1176    | 1.384    |
|                     | 43.00  | 1176.4           | 1.9             | 114.17         | 3.0930    | 1.384    |
|                     | 43.50  | 1176.4           | 1.9             | 114.18         | 3.0690    | 1.384    |
|                     | 44.00  | 1176.5           | 1.9             | 114.17         | 3.0455    | 1.384    |
| ***** End Shut-in 2 | 44.50  | 1176.5           | 1.9             | 114.16         | 3.0225    | 1.384    |
| ***** Final Hydro.  | 317.50 | 2115.8           | 0.0             | 114.17         |           |          |

# TEST HISTORY

10322 DST #1 Titus #2 Abercromie Drlg. Inc.

## Flag Points

t(Min.) P(PSIq)

A: 0.00 2152.61  
 B: 0.00 526.38  
 C: 30.00 1144.76  
 D: 45.50 1170.08  
 E: 0.00 1153.33  
 F: 50.00 1174.56  
 G: 44.50 1176.47  
 Q: 0.00 2115.84

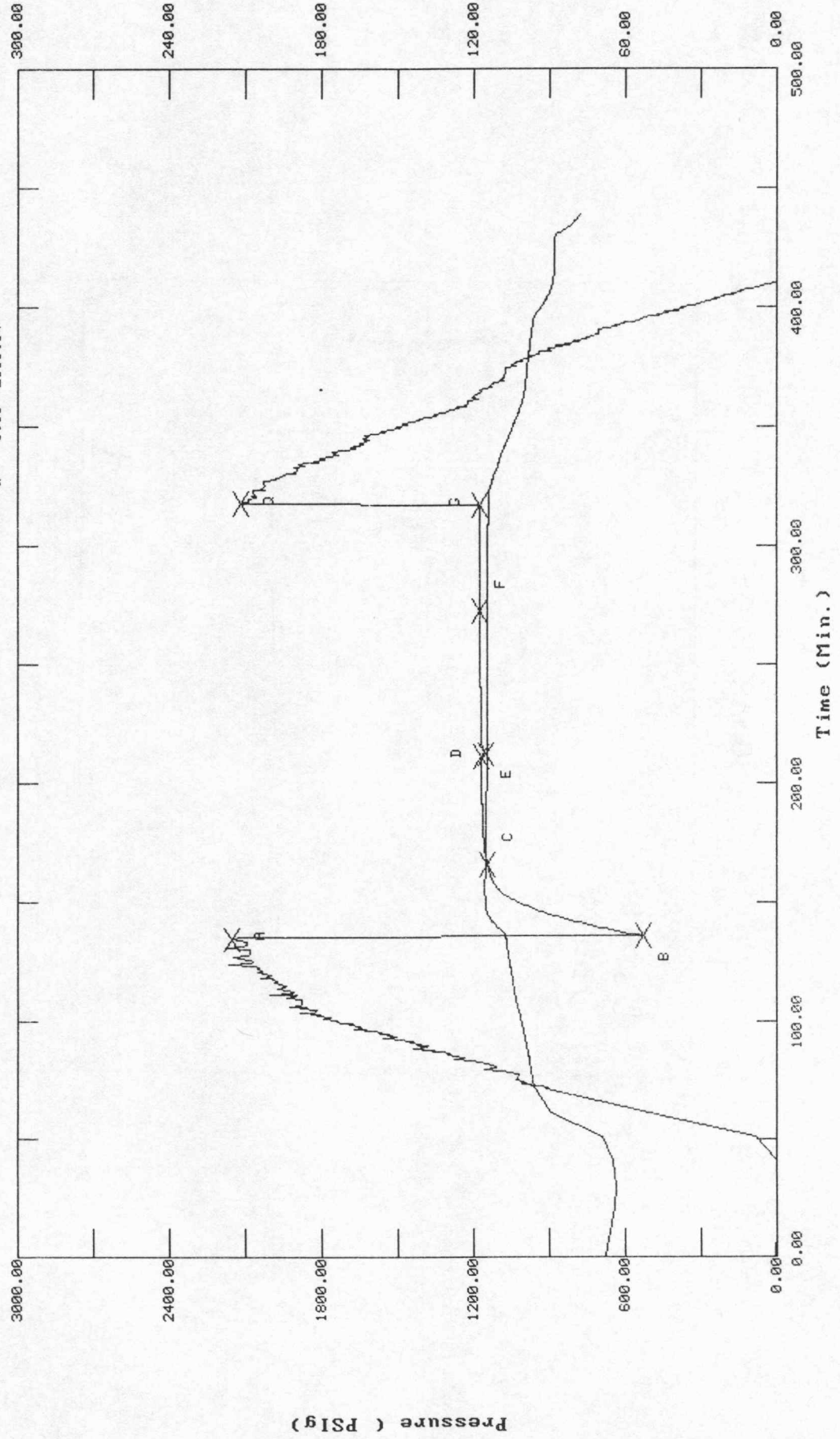
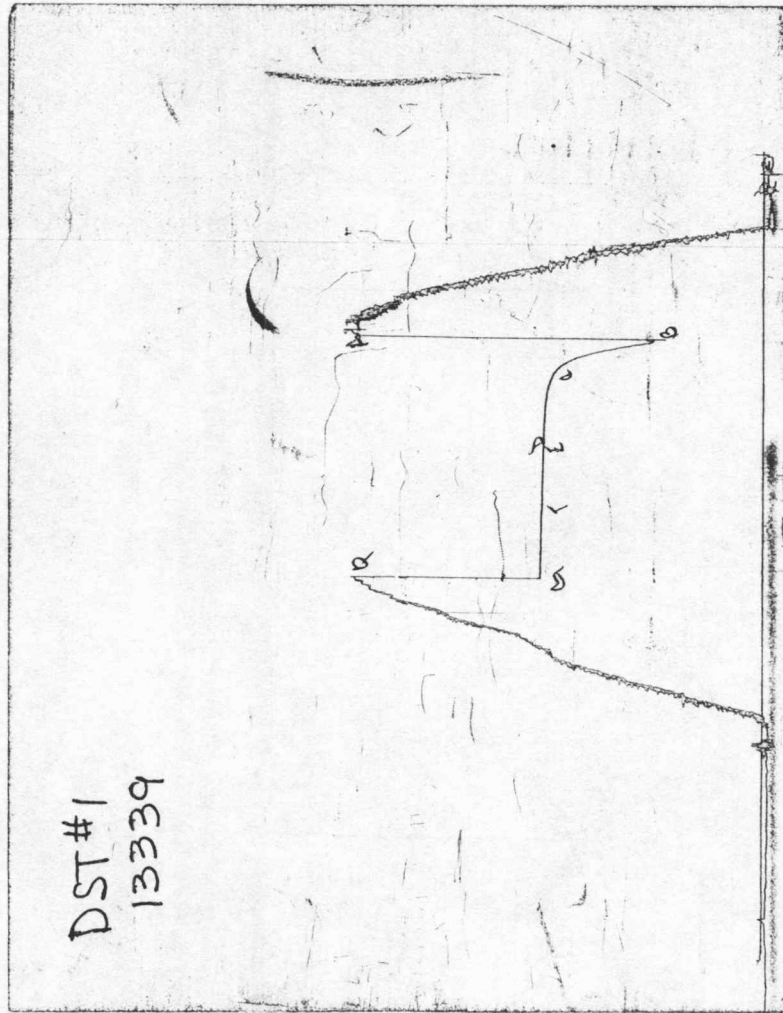


CHART PAGE



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

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

No 10322

|                 |                           |                           |                 |                 |                 |
|-----------------|---------------------------|---------------------------|-----------------|-----------------|-----------------|
| Well Name & No. | Titus #2                  | Test No.                  | 1               | Date            | 8-23-97         |
| Company         | Abercrombie Drilling Inc. | Zone Tested               | Lans/ KC.       |                 |                 |
| Address         | 150 N. Main Ste 801       | Wichita, KS               | 67202           | Elevation       | 3160 KB 3155 GL |
| Co. Rep / Geo.  | Tom Funk                  | Cont.                     | Abercrombie #4  | Est. Ft. of Pay | Por. %          |
| Location: Sec.  | 26                        | Twp.                      | 20 <sup>S</sup> | Rge.            | 35 <sup>W</sup> |
|                 |                           | Co.                       | Wichita         | State           | KS.             |
| No. of Copies   |                           | Distribution Sheet (Y, N) | N               | Turnkey (Y, N)  | N               |
|                 |                           | Evaluation (Y, N)         |                 |                 |                 |

|                     |             |                      |            |                       |           |
|---------------------|-------------|----------------------|------------|-----------------------|-----------|
| Interval Tested     | 4411 - 4439 | Initial Str Wt./Lbs. | 60,000     | Unseated Str Wt./Lbs. | 78,000    |
| Anchor Length       | 28'         | Wt. Set Lbs.         | 30,000     | Wt. Pulled Loose/Lbs. | 85,000    |
| Top Packer Depth    | 4406        | Tool Weight          | 1,800      |                       |           |
| Bottom Packer Depth | 4411        | Hole Size — 7 7/8"   |            | Rubber Size — 6 3/4"  |           |
| Total Depth         | 4439        | Wt. Pipe Run         | 319'       | Drill Collar Run      | —         |
| Mud Wt.             | 9.1 LCM     | Vis.                 | 53 WL 11.2 | Drill Pipe Size       | 4 1/2" XH |
|                     |             |                      |            | Ft. Run               | 4100'     |

Blow Description IF: Strong blow off bttm in 1 min.  
ISI: Bled off blow - no return.  
FF: Weak blow built to 9" then decreased to 6"  
FSI: Bled off blow - no return.

Recovery — Total Feet 2545' GIP — Ft. in DC — Ft. in DP 2545'

|      |              |                     |      |        |        |      |
|------|--------------|---------------------|------|--------|--------|------|
| Rec. | Feet Of      | %gas                | %oil | %water | %mud   |      |
| Rec. | Feet Of      | %gas                | %oil | %water | %mud   |      |
| Rec. | <u>2545'</u> | <u>Sulphur Wtr.</u> | %gas | %oil   | %water | %mud |
| Rec. | Feet Of      | %gas                | %oil | %water | %mud   |      |
| Rec. | Feet Of      | %gas                | %oil | %water | %mud   |      |

BHT 115° °F Gravity — °API D@ — °F Corrected Gravity — °API

RW .29 @ 60° °F Chlorides 26,000 ppm Recovery Chlorides 4,000 ppm System

|                                  |             |             |     |                 |              |           |             |
|----------------------------------|-------------|-------------|-----|-----------------|--------------|-----------|-------------|
| (A) Initial Hydrostatic Mud      | <u>2173</u> | <u>2152</u> | PSI | Recorder No.    | <u>2346</u>  | T-Started | <u>0210</u> |
| (B) First Initial Flow Pressure  | <u>589</u>  | <u>256</u>  | PSI | (depth)         | <u>4413</u>  | T-Open    | <u>0425</u> |
| (C) First Final Flow Pressure    | <u>1130</u> | <u>1144</u> | PSI | Recorder No.    | <u>13339</u> | T-Pulled  | <u>0725</u> |
| (D) Initial Shut-in Pressure     | <u>1140</u> | <u>1170</u> | PSI | (depth)         | <u>4434</u>  | T-Out     | <u>0930</u> |
| (E) Second Initial Flow Pressure | <u>1170</u> | <u>1153</u> | PSI | Recorder No.    | <u>—</u>     |           |             |
| (F) Second Final Flow Pressure   | <u>1170</u> | <u>1174</u> | PSI | (depth)         | <u>—</u>     |           |             |
| (G) Final Shut-in Pressure       | <u>1170</u> | <u>1176</u> | PSI | Initial Opening | <u>30</u>    | Test      |             |
| (H) Final Hydrostatic Mud        | <u>2143</u> | <u>2115</u> | PSI | Initial Shut-in | <u>45</u>    | Jars      |             |

AK-1 ALP.

Final Flow 60 Safety Joint —

Final Shut-in 45 Straddle —

TRILOBITE TESTING L.L.C. 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 [Signature]

Our Representative Rod Steinbrink

Circ. Sub X 35.00

Sampler —

Extra Packer —

Elect. Rec. X

Other —

TOTAL PRICE \$ —

# TRILOBITE TESTING L.L.C.

OPERATOR : Abercrombie Drlg.Inc.

DATE 8-23-97

WELL NAME: Titus #2

KB 3160.00 ft

TICKET NO: 10323

DST #2

LOCATION : 26-20S-35W Wichita KS.

GR 3155.00 ft

FORMATION: Marmaton

INTERVAL : 4508.00 To 4526.00 ft

TD 4526.00 ft

TEST TYPE: CONVENTIONAL

## RECORDER DATA

| Mins              | Field  | 1      | 2      | 3   | 4   | TIME DATA-----         |
|-------------------|--------|--------|--------|-----|-----|------------------------|
| PF 30 Rec.        | 13339  | 13339  | 2346   |     |     | PF Fr. 2311 to 2341 hr |
| SI 45 Range(Psi ) | 4025.0 | 4025.0 | 4995.0 | 0.0 | 0.0 | IS Fr. 2341 to 0046 hr |
| SF 60 Clock(hrs)  | 12 HR  | 12 HR  | Elec   |     |     | SF Fr. 0046 to 0146 hr |
| FS 45 Depth(ft )  | 4521.0 | 4521.0 | 4510.0 | 0.0 | 0.0 | FS Fr. 0146 to 0211 hr |

|                | Field  | 1      | 2      | 3   | 4   |                   |
|----------------|--------|--------|--------|-----|-----|-------------------|
| A. Init Hydro  | 2263.0 | 2268.0 | 2198.0 | 0.0 | 0.0 | T STARTED 2125 hr |
| B. First Flow  | 41.0   | 56.0   | 21.0   | 0.0 | 0.0 | T ON BOTM 2309 hr |
| B1. Final Flow | 93.0   | 103.0  | 108.0  | 0.0 | 0.0 | T OPEN 2311 hr    |
| C. In Shut-in  | 849.0  | 856.0  | 857.0  | 0.0 | 0.0 | T PULLED 0211 hr  |
| D. Init Flow   | 155.0  | 189.0  | 115.0  | 0.0 | 0.0 | T OUT 0430 hr     |
| E. Final Flow  | 197.0  | 217.0  | 196.0  | 0.0 | 0.0 |                   |
| F. Fl Shut-in  | 839.0  | 850.0  | 849.0  | 0.0 | 0.0 |                   |
| G. Final Hydro | 2113.0 | 2112.0 | 2106.0 | 0.0 | 0.0 |                   |
| Inside/Outside | 0      | 0      | I      |     |     |                   |

## RECOVERY

Tot Fluid 330.00 ft of 0.00 ft in DC and 330.00 ft in DP

5.00 ft of Free Oil

325.00 ft of Muddy Water

0.00 ft of 10% mud 90% water

0.00 ft of

0.00 ft of

0.00 ft of

0.00 ft of

0.00 ft of RW .33 @ 70 deg

SALINITY 20000.00 P.P.M. A.P.I. Gravity 0.00

TOOL DATA-----

Tool Wt. 1800.00 lbs

Wt Set On Packer 30000.00 lbs

Wt Pulled Loose 70000.00 lbs

Initial Str Wt 60000.00 lbs

Unseated Str Wt 65000.00 lbs

Bot Choke 0.75 in

Hole Size 8.88 in

D Col. ID 0.00 in

D. Pipe ID 3.80 in

D.C. Length 0.00 ft

D.P. Length 4193.00 ft

H.W. I.D 2.80 in

H.W. Length 319.00 ft

## BLOW DESCRIPTION

Initial Flow:

Weak to fair blow built to 7"

Initial Shut In:

Bled off blow - no return

Final Flow:

Weak return slowly built to 3"

Final Shut In:

Bled off blow - no return

SAMPLES:

SENT TO:

MUD DATA-----

Mud Type Chemical

Weight 9.20 lb/cf

Vis. 50.00 S/L

W.L. 9.60 in3

F.C. 0.00 in

Mud Drop N

Amt. of fill 0.00 ft

Btm. H. Temp. 115.00 F

Hole Condition Good

% Porosity 0.00

Packer Size 6.75 in

No. of Packers 2

Cushion Amt. 0.00

Cushion Type

Reversed Out N

Tool Chased N

Tester Rod Steinbrink

Co. Rep. Tom Funk

Contr. Abercrombie

Rig # 4

Unit #

Pump T.

Test Successful: Y

\*\*\* TOOL DIAGRAM \*\*\* CONVENTIONAL

WELL NAME: Titus #2

LOCATION : 26-20S-35W Wichita KS.

TICKET No. 10323 D.S.T. No. 2 DATE 8-23-97

TOTAL TOOL TO BOTTOM OF TOP PACKERS ..... 20

INTERVAL TOOL ..... 18

BOTTOM PACKERS AND ANCHOR .....

TOTAL TOOL ..... 38

DRILL COLLAR ANCHOR IN INTERVAL .....

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands Single Total

TOTAL ASSEMBLY ..... 38

D.C. ABOVE TOOLS.Stands Single Total

D.P. ABOVE TOOLS.Stands72 Single Total 4512

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 4550

TOTAL DEPTH ..... 4526

TOTAL DRILL PIPE ABOVE K.B. .... 24

REMARKS:

|                           |      |
|---------------------------|------|
| P.O. SUB 1' Above 120' WP | 4368 |
| C.O. SUB 1'               | 4488 |
| S.I. TOOL 5'              | 4494 |
| HMV 5'                    | 4499 |
| JARS N/A                  |      |
| SAFETY JOINT N/A          |      |
| PACKER 4'                 | 4503 |
| PACKER 5'                 | 4508 |
| DEPTH                     |      |
| STUBB 1'                  | 4509 |
| ANCHOR                    |      |
| Alpine Rec. @ 4510        |      |
| 12' Perf.                 | 4521 |
| T.C.                      |      |
| DEPTH                     |      |
| AK-1 Rec. @ 4521          |      |
| BULLNOSE 5'               |      |
| T.D.                      | 4526 |

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ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10323 DST #2 Titus #2 Abercrombie Drlg.Inc.

DATE: 08/23/97

TIME: 21:25:27  
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|                      | Time   | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|----------------------|--------|------------------|-----------------|----------------|-----------|----------|
| ***** Initial Hydro. | 106.00 | 2198.1           | 0.0             | 106.07         |           |          |
| ***** Start Flow 1   | 0.00   | 21.6             | 0.0             | 106.21         |           |          |
|                      | 1.00   | 26.5             | 4.9             | 106.32         |           |          |
|                      | 2.00   | 30.6             | 9.0             | 106.38         |           |          |
|                      | 3.00   | 35.2             | 13.6            | 106.43         |           |          |
|                      | 4.00   | 38.9             | 17.4            | 106.45         |           |          |
|                      | 5.00   | 42.7             | 21.1            | 106.48         |           |          |
|                      | 6.00   | 46.4             | 24.9            | 106.50         |           |          |
|                      | 7.00   | 50.4             | 28.8            | 106.53         |           |          |
|                      | 8.00   | 54.0             | 32.5            | 106.57         |           |          |
|                      | 9.00   | 57.4             | 35.9            | 106.61         |           |          |
|                      | 10.00  | 60.8             | 39.3            | 106.65         |           |          |
|                      | 11.00  | 64.1             | 42.5            | 106.71         |           |          |
|                      | 12.00  | 67.2             | 45.7            | 106.76         |           |          |
|                      | 14.00  | 73.3             | 51.7            | 106.91         |           |          |
|                      | 15.00  | 75.9             | 54.4            | 106.99         |           |          |
|                      | 16.00  | 78.5             | 57.0            | 107.09         |           |          |
|                      | 17.00  | 81.0             | 59.5            | 107.18         |           |          |
|                      | 18.00  | 83.4             | 61.9            | 107.30         |           |          |
|                      | 19.00  | 85.8             | 64.2            | 107.41         |           |          |
|                      | 20.00  | 88.3             | 66.8            | 107.53         |           |          |
|                      | 21.00  | 90.8             | 69.3            | 107.66         |           |          |
|                      | 22.00  | 93.3             | 71.8            | 107.79         |           |          |
|                      | 23.00  | 95.8             | 74.3            | 107.93         |           |          |
|                      | 24.00  | 98.2             | 76.7            | 108.08         |           |          |
|                      | 25.00  | 100.7            | 79.1            | 108.22         |           |          |
|                      | 26.00  | 103.3            | 81.7            | 108.37         |           |          |
|                      | 27.00  | 105.7            | 84.2            | 108.51         |           |          |
| ***** End Flow 1     | 28.00  | 108.3            | 86.7            | 108.67         |           |          |
| ***** Start Shutin 1 | 0.00   | 108.3            | 0.0             | 108.67         | 0.0000    | 0.012    |
|                      | 1.00   | 176.0            | 67.7            | 108.81         | 29.0000   | 0.031    |
|                      | 2.00   | 711.4            | 603.1           | 108.98         | 15.0000   | 0.506    |
|                      | 3.00   | 792.3            | 684.0           | 109.14         | 10.3333   | 0.628    |
|                      | 4.00   | 808.5            | 700.2           | 109.32         | 8.0000    | 0.654    |
|                      | 5.00   | 816.3            | 708.0           | 109.49         | 6.6000    | 0.666    |
|                      | 6.00   | 821.4            | 713.1           | 109.67         | 5.6667    | 0.675    |
|                      | 7.00   | 825.0            | 716.7           | 109.83         | 5.0000    | 0.681    |
|                      | 8.00   | 828.0            | 719.7           | 109.99         | 4.5000    | 0.686    |
|                      | 9.00   | 830.3            | 722.0           | 110.14         | 4.1111    | 0.689    |
|                      | 10.00  | 832.3            | 724.0           | 110.28         | 3.8000    | 0.693    |
|                      | 11.00  | 834.1            | 725.8           | 110.43         | 3.5455    | 0.696    |
|                      | 12.00  | 835.8            | 727.5           | 110.56         | 3.3333    | 0.699    |
|                      | 13.00  | 837.2            | 728.9           | 110.68         | 3.1538    | 0.701    |
|                      | 14.00  | 838.6            | 730.3           | 110.80         | 3.0000    | 0.703    |
|                      | 15.00  | 839.8            | 731.5           | 110.90         | 2.8667    | 0.705    |
|                      | 16.00  | 840.8            | 732.5           | 111.01         | 2.7500    | 0.707    |
|                      | 17.00  | 841.8            | 733.5           | 111.11         | 2.6471    | 0.709    |
|                      | 18.00  | 842.8            | 734.5           | 111.20         | 2.5556    | 0.710    |
|                      | 19.00  | 843.7            | 735.4           | 111.30         | 2.4737    | 0.712    |
|                      | 20.00  | 844.6            | 736.3           | 111.38         | 2.4000    | 0.713    |
|                      | 21.00  | 845.4            | 737.1           | 111.44         | 2.3333    | 0.715    |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10323 DST #2 Titus #2 Abercrombie Drlg.Inc.

DATE: 08/23/97

TIME: 21:25:27

|                     | Time  | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|---------------------|-------|------------------|-----------------|----------------|-----------|----------|
|                     | 22.00 | 846.1            | 737.8           | 111.52         | 2.2727    | 0.716    |
|                     | 23.00 | 846.7            | 738.4           | 111.59         | 2.2174    | 0.717    |
|                     | 24.00 | 847.5            | 739.2           | 111.66         | 2.1667    | 0.718    |
|                     | 25.00 | 848.1            | 739.8           | 111.71         | 2.1200    | 0.719    |
|                     | 26.00 | 848.8            | 740.5           | 111.78         | 2.0769    | 0.720    |
|                     | 27.00 | 849.3            | 741.0           | 111.83         | 2.0370    | 0.721    |
|                     | 28.00 | 849.9            | 741.6           | 111.88         | 2.0000    | 0.722    |
|                     | 29.00 | 850.4            | 742.1           | 111.93         | 1.9655    | 0.723    |
|                     | 30.00 | 851.0            | 742.7           | 111.96         | 1.9333    | 0.724    |
|                     | 31.00 | 851.5            | 743.2           | 112.01         | 1.9032    | 0.725    |
|                     | 32.00 | 851.9            | 743.6           | 112.05         | 1.8750    | 0.726    |
|                     | 33.00 | 852.4            | 744.1           | 112.09         | 1.8485    | 0.727    |
|                     | 34.00 | 852.8            | 744.5           | 112.13         | 1.8235    | 0.727    |
|                     | 35.00 | 853.3            | 745.0           | 112.16         | 1.8000    | 0.728    |
|                     | 36.00 | 853.6            | 745.3           | 112.19         | 1.7778    | 0.729    |
|                     | 37.00 | 854.0            | 745.7           | 112.23         | 1.7568    | 0.729    |
|                     | 38.00 | 854.3            | 746.0           | 112.24         | 1.7368    | 0.730    |
|                     | 39.00 | 854.7            | 746.4           | 112.28         | 1.7179    | 0.730    |
|                     | 40.00 | 855.1            | 746.8           | 112.30         | 1.7000    | 0.731    |
|                     | 41.00 | 855.3            | 747.1           | 112.33         | 1.6829    | 0.732    |
|                     | 42.00 | 855.7            | 747.4           | 112.35         | 1.6667    | 0.732    |
|                     | 43.00 | 856.0            | 747.7           | 112.37         | 1.6512    | 0.733    |
|                     | 44.00 | 856.3            | 748.0           | 112.38         | 1.6364    | 0.733    |
|                     | 45.00 | 856.6            | 748.4           | 112.41         | 1.6222    | 0.734    |
|                     | 46.00 | 856.9            | 748.6           | 112.41         | 1.6087    | 0.734    |
| ***** End Shut-in 1 | 47.00 | 857.1            | 748.8           | 112.43         | 1.5957    | 0.735    |
| ***** Start Flow 2  | 0.00  | 115.1            | 0.0             | 112.43         |           |          |
|                     | 1.00  | 117.6            | 2.5             | 112.44         |           |          |
|                     | 2.00  | 120.0            | 4.9             | 112.42         |           |          |
|                     | 3.00  | 122.5            | 7.4             | 112.40         |           |          |
|                     | 4.00  | 124.7            | 9.6             | 112.39         |           |          |
|                     | 5.00  | 127.1            | 12.0            | 112.38         |           |          |
|                     | 6.00  | 129.4            | 14.3            | 112.37         |           |          |
|                     | 7.00  | 131.8            | 16.7            | 112.37         |           |          |
|                     | 8.00  | 134.0            | 18.9            | 112.37         |           |          |
|                     | 9.00  | 136.3            | 21.2            | 112.38         |           |          |
|                     | 10.00 | 138.5            | 23.4            | 112.38         |           |          |
|                     | 11.00 | 140.7            | 25.6            | 112.40         |           |          |
|                     | 12.00 | 142.9            | 27.8            | 112.42         |           |          |
|                     | 13.00 | 145.1            | 30.0            | 112.45         |           |          |
|                     | 14.00 | 147.1            | 32.0            | 112.47         |           |          |
|                     | 15.00 | 149.3            | 34.2            | 112.50         |           |          |
|                     | 16.00 | 151.5            | 36.4            | 112.54         |           |          |
|                     | 17.00 | 153.6            | 38.5            | 112.58         |           |          |
|                     | 18.00 | 155.8            | 40.7            | 112.62         |           |          |
|                     | 19.00 | 157.8            | 42.7            | 112.66         |           |          |
|                     | 20.00 | 159.7            | 44.6            | 112.71         |           |          |
|                     | 21.00 | 160.9            | 45.8            | 112.76         |           |          |
|                     | 22.00 | 162.0            | 46.9            | 112.81         |           |          |
|                     | 23.00 | 163.1            | 48.0            | 112.87         |           |          |
|                     | 24.00 | 164.2            | 49.1            | 112.93         |           |          |

# ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10323 DST #2 Titus #2 Abercrombie Drlg.Inc.

DATE: 08/23/97

TIME: 21:25:27

|                      | Time  | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P <sup>2</sup> /10 <sup>6</sup> |
|----------------------|-------|------------------|-----------------|----------------|-----------|---------------------------------|
|                      | 25.00 | 165.2            | 50.1            | 112.97         |           |                                 |
|                      | 26.00 | 164.3            | 49.2            | 113.03         |           |                                 |
|                      | 27.00 | 165.2            | 50.1            | 113.09         |           |                                 |
|                      | 28.00 | 166.3            | 51.2            | 113.15         |           |                                 |
|                      | 29.00 | 167.3            | 52.2            | 113.21         |           |                                 |
|                      | 30.00 | 168.4            | 53.3            | 113.27         |           |                                 |
|                      | 31.00 | 169.3            | 54.2            | 113.33         |           |                                 |
|                      | 32.00 | 170.4            | 55.3            | 113.40         |           |                                 |
|                      | 33.00 | 171.7            | 56.6            | 113.46         |           |                                 |
|                      | 34.00 | 172.8            | 57.7            | 113.52         |           |                                 |
|                      | 35.00 | 173.7            | 58.6            | 113.57         |           |                                 |
|                      | 36.00 | 174.8            | 59.7            | 113.64         |           |                                 |
|                      | 37.00 | 175.9            | 60.8            | 113.70         |           |                                 |
|                      | 38.00 | 176.8            | 61.7            | 113.76         |           |                                 |
|                      | 39.00 | 177.9            | 62.8            | 113.81         |           |                                 |
|                      | 40.00 | 178.8            | 63.7            | 113.88         |           |                                 |
|                      | 41.00 | 179.8            | 64.7            | 113.93         |           |                                 |
|                      | 42.00 | 180.9            | 65.7            | 113.98         |           |                                 |
|                      | 43.00 | 181.8            | 66.7            | 114.04         |           |                                 |
|                      | 44.00 | 182.8            | 67.7            | 114.09         |           |                                 |
|                      | 45.00 | 183.7            | 68.6            | 114.15         |           |                                 |
|                      | 46.00 | 184.9            | 69.8            | 114.20         |           |                                 |
|                      | 47.00 | 186.0            | 70.9            | 114.26         |           |                                 |
|                      | 48.00 | 187.0            | 71.9            | 114.31         |           |                                 |
|                      | 49.00 | 188.0            | 72.9            | 114.35         |           |                                 |
|                      | 50.00 | 189.0            | 73.9            | 114.40         |           |                                 |
|                      | 51.00 | 189.9            | 74.8            | 114.46         |           |                                 |
|                      | 52.00 | 190.9            | 75.8            | 114.50         |           |                                 |
|                      | 53.00 | 191.8            | 76.7            | 114.54         |           |                                 |
|                      | 54.00 | 192.7            | 77.6            | 114.59         |           |                                 |
|                      | 55.00 | 193.6            | 78.5            | 114.63         |           |                                 |
|                      | 56.00 | 194.5            | 79.4            | 114.68         |           |                                 |
|                      | 57.00 | 195.5            | 80.4            | 114.72         |           |                                 |
| ***** End Flow 2     | 58.00 | 196.4            | 81.3            | 114.76         |           |                                 |
| ***** Start Shutin 2 | 0.00  | 196.4            | 0.0             | 114.76         | 0.0000    | 0.039                           |
|                      | 1.00  | 276.3            | 79.9            | 114.80         | 87.0000   | 0.076                           |
|                      | 2.00  | 515.7            | 319.3           | 114.84         | 44.0000   | 0.266                           |
|                      | 3.00  | 729.0            | 532.6           | 114.89         | 29.6667   | 0.531                           |
|                      | 4.00  | 788.0            | 591.6           | 114.95         | 22.5000   | 0.621                           |
|                      | 5.00  | 804.8            | 608.4           | 115.01         | 18.2000   | 0.648                           |
|                      | 6.00  | 812.0            | 615.6           | 115.06         | 15.3333   | 0.659                           |
|                      | 7.00  | 816.4            | 620.0           | 115.12         | 13.2857   | 0.666                           |
|                      | 8.00  | 819.6            | 623.1           | 115.17         | 11.7500   | 0.672                           |
|                      | 9.00  | 822.0            | 625.6           | 115.22         | 10.5556   | 0.676                           |
|                      | 10.00 | 824.1            | 627.7           | 115.26         | 9.6000    | 0.679                           |
|                      | 11.00 | 825.7            | 629.3           | 115.30         | 8.8182    | 0.682                           |
|                      | 12.00 | 827.2            | 630.8           | 115.32         | 8.1667    | 0.684                           |
|                      | 13.00 | 828.6            | 632.2           | 115.36         | 7.6154    | 0.687                           |
|                      | 14.00 | 829.9            | 633.5           | 115.38         | 7.1429    | 0.689                           |
|                      | 15.00 | 831.0            | 634.6           | 115.40         | 6.7333    | 0.691                           |
|                      | 16.00 | 832.0            | 635.6           | 115.40         | 6.3750    | 0.692                           |

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 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING  
 TEST: 10323 DST #2 Titus #2 Abercrombie Drlg.Inc.  
 DATE: 08/23/97 TIME: 21:25:27  
 -----

|                     | Time   | Pressure<br>PSig | delta P<br>PSig | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|---------------------|--------|------------------|-----------------|----------------|-----------|----------|
|                     | 17.00  | 833.0            | 636.6           | 115.44         | 6.0588    | 0.694    |
|                     | 18.00  | 833.9            | 637.5           | 115.46         | 5.7778    | 0.695    |
|                     | 19.00  | 834.8            | 638.4           | 115.48         | 5.5263    | 0.697    |
|                     | 20.00  | 835.7            | 639.2           | 115.49         | 5.3000    | 0.698    |
|                     | 21.00  | 836.4            | 640.0           | 115.50         | 5.0952    | 0.700    |
|                     | 22.00  | 837.1            | 640.7           | 115.50         | 4.9091    | 0.701    |
|                     | 23.00  | 837.8            | 641.4           | 115.50         | 4.7391    | 0.702    |
|                     | 24.00  | 838.5            | 642.1           | 115.51         | 4.5833    | 0.703    |
|                     | 25.00  | 839.1            | 642.7           | 115.51         | 4.4400    | 0.704    |
|                     | 26.00  | 839.7            | 643.3           | 115.51         | 4.3077    | 0.705    |
|                     | 27.00  | 840.3            | 643.9           | 115.52         | 4.1852    | 0.706    |
|                     | 28.00  | 840.9            | 644.5           | 115.52         | 4.0714    | 0.707    |
|                     | 29.00  | 841.5            | 645.1           | 115.53         | 3.9655    | 0.708    |
|                     | 30.00  | 842.0            | 645.6           | 115.53         | 3.8667    | 0.709    |
|                     | 31.00  | 842.5            | 646.1           | 115.52         | 3.7742    | 0.710    |
|                     | 32.00  | 843.0            | 646.6           | 115.52         | 3.6875    | 0.711    |
|                     | 33.00  | 843.5            | 647.1           | 115.51         | 3.6061    | 0.712    |
|                     | 34.00  | 844.0            | 647.6           | 115.52         | 3.5294    | 0.712    |
|                     | 35.00  | 844.4            | 648.0           | 115.51         | 3.4571    | 0.713    |
|                     | 36.00  | 844.9            | 648.5           | 115.51         | 3.3889    | 0.714    |
|                     | 37.00  | 845.2            | 648.8           | 115.50         | 3.3243    | 0.714    |
|                     | 38.00  | 845.7            | 649.3           | 115.49         | 3.2632    | 0.715    |
|                     | 39.00  | 846.0            | 649.6           | 115.48         | 3.2051    | 0.716    |
|                     | 40.00  | 846.4            | 650.0           | 115.48         | 3.1500    | 0.716    |
|                     | 41.00  | 846.7            | 650.3           | 115.47         | 3.0976    | 0.717    |
|                     | 42.00  | 847.1            | 650.7           | 115.46         | 3.0476    | 0.718    |
|                     | 43.00  | 847.4            | 651.0           | 115.45         | 3.0000    | 0.718    |
|                     | 44.00  | 847.8            | 651.3           | 115.45         | 2.9545    | 0.719    |
|                     | 45.00  | 848.1            | 651.7           | 115.43         | 2.9111    | 0.719    |
|                     | 46.00  | 848.4            | 652.0           | 115.42         | 2.8696    | 0.720    |
|                     | 47.00  | 848.8            | 652.4           | 115.42         | 2.8298    | 0.720    |
| ***** End Shut-in 2 |        |                  |                 |                |           |          |
| ***** Final Hydro.  | 290.00 | 2106.3           | 0.0             | 115.43         |           |          |

# TEST HISTORY 10323 DST #2 Titus #2 Abercrombie Drlg.Inc.

Flag Points

t(Min.) P(PSig)

A: 0.00 2198.11  
 B: 0.00 21.55  
 C: 28.00 108.29  
 D: 47.00 857.11  
 E: 0.00 115.10  
 F: 58.00 196.41  
 G: 47.00 848.82  
 Q: 0.00 2106.35

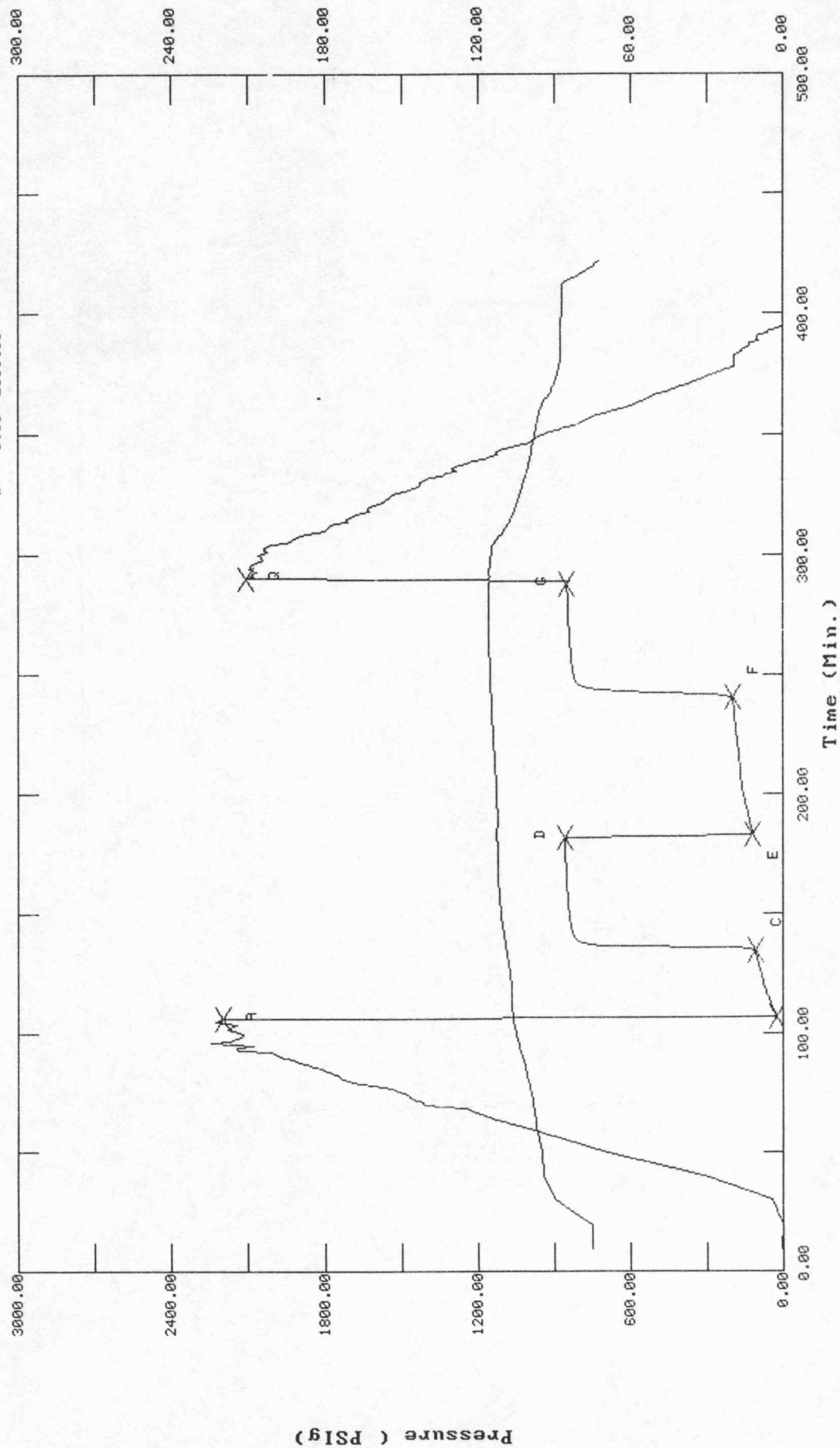
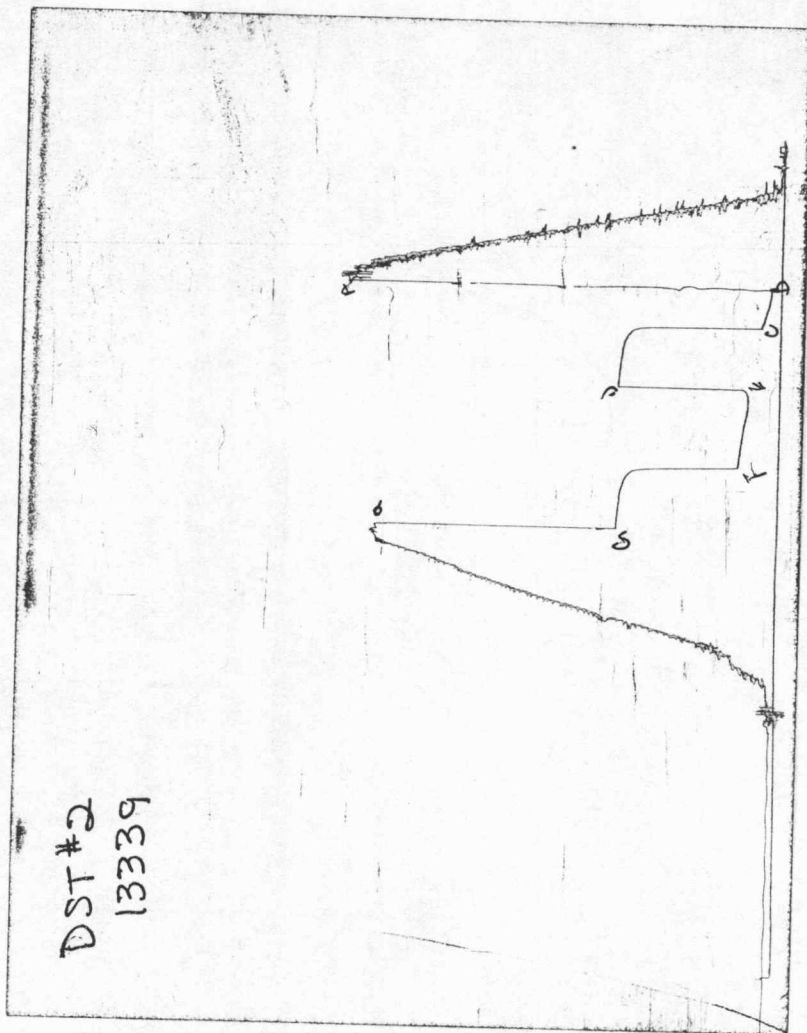


CHART PAGE



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

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

Nº 10323

|                 |                                       |                           |                 |                 |                 |
|-----------------|---------------------------------------|---------------------------|-----------------|-----------------|-----------------|
| Well Name & No. | Titus #2                              | Test No.                  | 2               | Date            | 8-23-97         |
| Company         | Abercrombie Drilling, Inc.            | Zone Tested               | Marmaton        |                 |                 |
| Address         | 150 N. Main Ste 801 Wichita, KS 67202 | Elevation                 | 3160            | KB              | 3155 GL         |
| Co. Rep / Geo.  | Tom Funk                              | Cont.                     | Abercrombie #4  | Est. Ft. of Pay | Por. %          |
| Location: Sec.  | 26                                    | Twp.                      | 20 <sup>S</sup> | Rge.            | 35 <sup>W</sup> |
|                 |                                       | Co.                       | Wichita         | State           | KS              |
| No. of Copies   |                                       | Distribution Sheet (Y, N) | N               | Turnkey (Y, N)  | N               |
|                 |                                       | Evaluation (Y, N)         |                 |                 |                 |

|                     |             |                      |           |                       |        |
|---------------------|-------------|----------------------|-----------|-----------------------|--------|
| Interval Tested     | 4508 - 4526 | Initial Str Wt./Lbs. | 60,000    | Unseated Str Wt./Lbs. | 65,000 |
| Anchor Length       | 18'         | Wt. Set Lbs.         | 30,000    | Wt. Pulled Loose/Lbs. | 70,000 |
| Top Packer Depth    | 4503        | Tool Weight          | 1,800     |                       |        |
| Bottom Packer Depth | 4508        | Hole Size — 7 7/8"   |           | Rubber Size — 6 3/4"  |        |
| Total Depth         | 4526        | Wt. Pipe Run         | 319'      | Drill Collar Run      | —      |
| Mud Wt. 9.2 LCM     |             | Drill Pipe Size      | 4 1/2" XH | Ft. Run               | 4193'  |
| Vis. 50 WL 9.6      |             |                      |           |                       |        |

Blow Description IF: Weak to fair blow built to 7"  
 ISI: Bled off blow - no return.  
 FF: Weak return slowly built to 3"  
 FSI: Bled off blow - no return.

Recovery — Total Feet 330' GIP — Ft. in DC — Ft. in DP 330'

|           |                    |      |      |           |         |
|-----------|--------------------|------|------|-----------|---------|
| Rec.      | Feet Of            | %gas | %oil | %water    | %mud    |
| Rec. 5'   | Feet Of Free Dil   | %gas | %oil | %water    | %mud    |
| Rec.      | Feet Of            | %gas | %oil | %water    | %mud    |
| Rec. 325' | Feet Of M.W. try # | %gas | %oil | 90 %water | 10 %mud |
| Rec.      | Feet Of            | %gas | %oil | %water    | %mud    |

BHT 115° °F Gravity °API D@ °F Corrected Gravity °API

RW .33 @ 10° °F Chlorides 20,000 ppm Recovery Chlorides 4,300 ppm System

|                                  |      |      |     |                 |       |           |      |
|----------------------------------|------|------|-----|-----------------|-------|-----------|------|
| (A) Initial Hydrostatic Mud      | 2263 | 2198 | PSI | Recorder No.    | 2346  | T-Started | 2125 |
| (B) First Initial Flow Pressure  | 41   | 21   | PSI | (depth)         | 4510  | T-Open    | 2311 |
| (C) First Final Flow Pressure    | 93   | 108  | PSI | Recorder No.    | 13339 | T-Pulled  | 0211 |
| (D) Initial Shut-in Pressure     | 849  | 857  | PSI | (depth)         | 4521  | T-Out     | 0430 |
| (E) Second Initial Flow Pressure | 155  | 1185 | PSI | Recorder No.    | —     |           |      |
| (F) Second Final Flow Pressure   | 197  | 196  | PSI | (depth)         | —     |           |      |
| (G) Final Shut-in Pressure       | 839  | 848  | PSI | Initial Opening | 30    | Test      |      |
| (H) Final Hydrostatic Mud        | 2113 | 2106 | PSI | Initial Shut-in | 45    | Jars      |      |

AK-1 ALP

Final Flow 60 Safety Joint

Final Shut-in 45 Straddle

Circ. Sub X N/C

Sampler

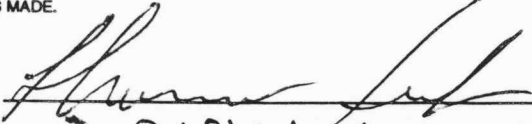
Extra Packer

Elect. Rec. X

Other

TOTAL PRICE \$

TRILOBITE TESTING L.L.C. 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 

Our Representative Rod Steinbrink

# TRILOBITE TESTING L.L.C.

OPERATOR : Abercrombie Drlg.Inc.

DATE 8-24-97

WELL NAME: Titus #2

KB 3160.00 ft

TICKET NO: 10324

DST #3

LOCATION : 26-20S-35W Wichita KS.

GR 3155.00 ft

FORMATION: Beymer

INTERVAL : 4582.00 To 4605.00 ft

TD 4605.00 ft

TEST TYPE: CONVENTIONAL

## RECORDER DATA

| Mins              | Field  | 1      | 2      | 3   | 4   | TIME DATA-----         |
|-------------------|--------|--------|--------|-----|-----|------------------------|
| PF 30 Rec.        | 13339  | 13339  | 2346   |     |     | PF Fr. 1747 to 1817 hr |
| SI 45 Range(Psi ) | 4025.0 | 4025.0 | 4995.0 | 0.0 | 0.0 | IS Fr. 1817 to 1902 hr |
| SF 60 Clock(hrs)  | 12 HR  | 12 HR  | Elec   |     |     | SF Fr. 1902 to 2002 hr |
| FS 45 Depth(ft )  | 4600.0 | 4600.0 | 4585.0 | 0.0 | 0.0 | FS Fr. 2002 to 2047 hr |

|                | Field  | 1      | 2      | 3   | 4   |                               |
|----------------|--------|--------|--------|-----|-----|-------------------------------|
| A. Init Hydro  | 2223.0 | 2300.0 | 2242.0 | 0.0 | 0.0 | T STARTED 1400 hr             |
| B. First Flow  | 104.0  | 151.0  | 102.0  | 0.0 | 0.0 | T ON BOTM 1745 hr             |
| B1. Final Flow | 291.0  | 336.0  | 382.0  | 0.0 | 0.0 | T OPEN 1747 hr                |
| C. In Shut-in  | 1130.0 | 1159.0 | 1190.0 | 0.0 | 0.0 | T PULLED 2047 hr              |
| D. Init Flow   | 436.0  | 474.0  | 409.0  | 0.0 | 0.0 | T OUT 0015 hr                 |
| E. Final Flow  | 689.0  | 711.0  | 730.0  | 0.0 | 0.0 |                               |
| F. Fl Shut-in  | 1130.0 | 1140.0 | 1166.0 | 0.0 | 0.0 | TOOL DATA-----                |
| G. Final Hydro | 2173.0 | 2191.0 | 2189.0 | 0.0 | 0.0 | Tool Wt. 1800.00 lbs          |
| Inside/Outside | O      | O      | I      |     |     | Wt Set On Packer 30000.00 lbs |
|                |        |        |        |     |     | Wt Pulled Loose 80000.00 lbs  |
|                |        |        |        |     |     | Initial Str Wt 68000.00 lbs   |
|                |        |        |        |     |     | Unseated Str Wt 74000.00 lbs  |
|                |        |        |        |     |     | Bot Choke 0.75 in             |
|                |        |        |        |     |     | Hole Size 8.88 in             |
|                |        |        |        |     |     | D Col. ID 0.00 in             |
|                |        |        |        |     |     | D. Pipe ID 3.80 in            |
|                |        |        |        |     |     | D.C. Length 0.00 ft           |
|                |        |        |        |     |     | D.P. Length 4256.00 ft        |
|                |        |        |        |     |     | H.W. I.D 2.80 in              |
|                |        |        |        |     |     | H.W. Length 319.00 ft         |

## RECOVERY

Tot Fluid 2110.00 ft of 0.00 ft in DC and 2110.00 ft in DP

1930.00 ft of Gassy Oil

0.00 ft of 40%gas 60%oil

180.00 ft of Gassy Heavy Mud Cut Oil

0.00 ft of 10%gas 30%mud 60%oil

0.00 ft of

0.00 ft of

0.00 ft of

0.00 ft of

SALINITY 0.00 P.P.M. A.P.I. Gravity 33.00

## BLOW DESCRIPTION

Initial Flow:

Strong blow off bottom in 1 min

Initial Shut In:

Bled off blow - surface return built to bottom in 5 mins

Final Flow:

Fair to strong blow off bottom in 1 min Gas To Surface @ 30 mins

Final Shut In:

Bled off blow - built to bottom in 5 mins

SAMPLES:

SENT TO:

## MUD DATA-----

| Mud Type   | Chemical   |
|------------|------------|
| Weight     | 9.10 lb/cf |
| Vis.       | 51.00 S/L  |
| W.L.       | 10.40 in3  |
| F.C.       | 0.00 in    |
| Mud Drop N |            |

|                |                |
|----------------|----------------|
| Amt. of fill   | 0.00 ft        |
| Btm. H. Temp.  | 119.00 F       |
| Hole Condition | Good           |
| % Porosity     | 0.00           |
| Packer Size    | 6.75 in        |
| No. of Packers | 2              |
| Cushion Amt.   | 0.00           |
| Cushion Type   |                |
| Reversed Out N |                |
| Tool Chased N  |                |
| Tester         | Rod Steinbrink |
| Co. Rep.       | Tom Funk       |
| Contr.         | Abercrombie    |
| Rig #          | 4              |
| Unit #         |                |
| Pump T.        |                |

Test Successful: Y

\*\*\* TOOL DIAGRAM \*\*\* CONVENTIONAL

WELL NAME: Titus #2

LOCATION : 26-20S-35W Wichita KS.

TICKET No. 10324 D.S.T. No. 3 DATE 8-24-97

TOTAL TOOL TO BOTTOM OF TOP PACKERS ..... 20

INTERVAL TOOL ..... 23

TOTAL PACKERS AND ANCHOR .....

TOTAL TOOL ..... 43

DRILL COLLAR ANCHOR IN INTERVAL .....

C. ANCHOR STND.Stands Single Total

P. ANCHOR STND.Stands Single Total

TOTAL ASSEMBLY ..... 43

C. ABOVE TOOLS.Stands Single Total

P. ABOVE TOOLS.Stands73 Single 1 Total 4575

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 4618

TOTAL DEPTH ..... 4605

TOTAL DRILL PIPE ABOVE K.B. .... 13

REMARKS:

|                           |      |
|---------------------------|------|
| P.O. SUB 1' Above 120' WP | 4442 |
| C.O. SUB 1'               | 4562 |
| S.I. TOOL 5'              | 4568 |
| HMV 5'                    | 4573 |
| JARS N/A                  |      |
| SAFETY JOINT N/A          |      |
| PACKER 4'                 | 4577 |
| PACKER 5'                 | 4582 |
| DEPTH                     |      |
| STUBB 1'                  | 4583 |
| ANCHOR                    |      |
| Alpine Rec. @ 4585        |      |
| 17' Perf                  | 4600 |
| T.C.                      |      |
| DEPTH                     |      |
| AK-1 Rec. @ 4600          |      |
| BULLNOSE 5'               |      |
| T.D.                      | 4605 |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10324 DST #3 Titus #2 Abercrombie Drlg.Inc.

DATE: 08/24/97

TIME: 16:00:22

|                      | Time   | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|----------------------|--------|------------------|-----------------|----------------|-----------|----------|
| ***** Initial Hydro. | 106.00 | 2241.6           | 0.0             | 106.20         |           |          |
| ***** Start Flow 1   | 0.00   | 101.6            | 0.0             | 106.42         |           |          |
|                      | 1.00   | 103.1            | 1.5             | 106.68         |           |          |
|                      | 2.00   | 111.8            | 10.2            | 107.18         |           |          |
|                      | 3.00   | 122.4            | 20.8            | 107.89         |           |          |
|                      | 4.00   | 131.3            | 29.7            | 108.78         |           |          |
|                      | 5.00   | 136.2            | 34.6            | 109.80         |           |          |
|                      | 6.00   | 146.9            | 45.3            | 110.84         |           |          |
|                      | 7.00   | 158.5            | 56.9            | 111.84         |           |          |
|                      | 8.00   | 169.6            | 68.0            | 112.75         |           |          |
|                      | 9.00   | 179.1            | 77.5            | 113.59         |           |          |
|                      | 10.00  | 190.2            | 88.6            | 114.33         |           |          |
|                      | 11.00  | 201.2            | 99.6            | 114.98         |           |          |
|                      | 12.00  | 212.1            | 110.5           | 115.55         |           |          |
|                      | 13.00  | 222.6            | 121.0           | 116.03         |           |          |
|                      | 14.00  | 233.0            | 131.4           | 116.45         |           |          |
|                      | 15.00  | 243.1            | 141.5           | 116.82         |           |          |
|                      | 16.00  | 253.2            | 151.6           | 117.12         |           |          |
|                      | 17.00  | 263.2            | 161.6           | 117.40         |           |          |
|                      | 18.00  | 272.4            | 170.8           | 117.63         |           |          |
|                      | 19.00  | 281.4            | 179.8           | 117.83         |           |          |
|                      | 20.00  | 290.7            | 189.1           | 118.01         |           |          |
|                      | 21.00  | 299.7            | 198.1           | 118.16         |           |          |
|                      | 22.00  | 308.8            | 207.2           | 118.29         |           |          |
|                      | 23.00  | 317.4            | 215.8           | 118.41         |           |          |
|                      | 24.00  | 325.9            | 224.3           | 118.45         |           |          |
|                      | 25.00  | 334.4            | 232.8           | 118.55         |           |          |
|                      | 26.00  | 343.0            | 241.3           | 118.63         |           |          |
|                      | 27.00  | 350.9            | 249.3           | 118.70         |           |          |
|                      | 28.00  | 359.2            | 257.6           | 118.75         |           |          |
|                      | 29.00  | 366.8            | 265.2           | 118.78         |           |          |
|                      | 30.00  | 374.7            | 273.1           | 118.83         |           |          |
| ***** End Flow 1     | 31.00  | 382.5            | 280.9           | 118.86         |           |          |
| ***** Start Shutin 1 | 0.00   | 382.5            | 0.0             | 118.86         | 0.0000    | 0.146    |
|                      | 1.00   | 477.8            | 95.3            | 118.89         | 32.0000   | 0.228    |
|                      | 2.00   | 923.7            | 541.2           | 118.92         | 16.5000   | 0.853    |
|                      | 3.00   | 992.8            | 610.3           | 118.98         | 11.3333   | 0.986    |
|                      | 4.00   | 1027.2           | 644.7           | 119.05         | 8.7500    | 1.055    |
|                      | 5.00   | 1049.9           | 667.4           | 119.14         | 7.2000    | 1.102    |
|                      | 6.00   | 1066.3           | 683.8           | 119.21         | 6.1667    | 1.137    |
|                      | 7.00   | 1079.3           | 696.7           | 119.27         | 5.4286    | 1.165    |
|                      | 8.00   | 1089.7           | 707.2           | 119.33         | 4.8750    | 1.187    |
|                      | 9.00   | 1098.6           | 716.1           | 119.39         | 4.4444    | 1.207    |
|                      | 10.00  | 1106.3           | 723.7           | 119.44         | 4.1000    | 1.224    |
|                      | 11.00  | 1112.9           | 730.3           | 119.50         | 3.8182    | 1.238    |
|                      | 13.00  | 1124.2           | 741.6           | 119.56         | 3.3846    | 1.264    |
|                      | 14.00  | 1129.1           | 746.5           | 119.59         | 3.2143    | 1.275    |
|                      | 15.00  | 1133.3           | 750.8           | 119.61         | 3.0667    | 1.284    |
|                      | 16.00  | 1137.4           | 754.8           | 119.63         | 2.9375    | 1.294    |
|                      | 17.00  | 1141.1           | 758.5           | 119.64         | 2.8235    | 1.302    |
|                      | 18.00  | 1144.4           | 761.9           | 119.64         | 2.7222    | 1.310    |

-----  
 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10324 DST #3 Titus #2 Abercrombie Drlg.Inc.

DATE: 08/24/97

TIME: 16:00:22  
 -----

|                     | Time  | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|---------------------|-------|------------------|-----------------|----------------|-----------|----------|
|                     | 19.00 | 1147.5           | 765.0           | 119.66         | 2.6316    | 1.317    |
|                     | 20.00 | 1150.5           | 767.9           | 119.65         | 2.5500    | 1.324    |
|                     | 21.00 | 1153.2           | 770.7           | 119.66         | 2.4762    | 1.330    |
|                     | 22.00 | 1155.8           | 773.3           | 119.65         | 2.4091    | 1.336    |
|                     | 23.00 | 1158.2           | 775.6           | 119.65         | 2.3478    | 1.341    |
|                     | 24.00 | 1160.3           | 777.8           | 119.64         | 2.2917    | 1.346    |
|                     | 25.00 | 1162.4           | 779.9           | 119.64         | 2.2400    | 1.351    |
|                     | 26.00 | 1164.5           | 782.0           | 119.62         | 2.1923    | 1.356    |
|                     | 27.00 | 1166.4           | 783.8           | 119.62         | 2.1481    | 1.360    |
|                     | 28.00 | 1168.2           | 785.7           | 119.60         | 2.1071    | 1.365    |
|                     | 29.00 | 1169.8           | 787.3           | 119.59         | 2.0690    | 1.368    |
|                     | 30.00 | 1171.4           | 788.9           | 119.59         | 2.0333    | 1.372    |
|                     | 31.00 | 1173.0           | 790.5           | 119.56         | 2.0000    | 1.376    |
|                     | 32.00 | 1174.4           | 791.9           | 119.57         | 1.9688    | 1.379    |
|                     | 33.00 | 1175.8           | 793.2           | 119.56         | 1.9394    | 1.382    |
|                     | 34.00 | 1177.1           | 794.6           | 119.54         | 1.9118    | 1.386    |
|                     | 35.00 | 1178.4           | 795.9           | 119.53         | 1.8857    | 1.389    |
|                     | 36.00 | 1179.6           | 797.1           | 119.52         | 1.8611    | 1.391    |
|                     | 37.00 | 1180.7           | 798.2           | 119.51         | 1.8378    | 1.394    |
|                     | 38.00 | 1181.9           | 799.3           | 119.49         | 1.8158    | 1.397    |
|                     | 39.00 | 1183.0           | 800.4           | 119.47         | 1.7949    | 1.399    |
|                     | 40.00 | 1184.0           | 801.4           | 119.46         | 1.7750    | 1.402    |
|                     | 41.00 | 1184.9           | 802.4           | 119.44         | 1.7561    | 1.404    |
|                     | 42.00 | 1185.8           | 803.3           | 119.40         | 1.7381    | 1.406    |
|                     | 43.00 | 1186.8           | 804.3           | 119.40         | 1.7209    | 1.409    |
|                     | 44.00 | 1187.6           | 805.1           | 119.37         | 1.7045    | 1.410    |
|                     | 45.00 | 1188.5           | 806.0           | 119.35         | 1.6889    | 1.412    |
|                     | 46.00 | 1189.3           | 806.8           | 119.33         | 1.6739    | 1.414    |
| ***** End Shut-in 1 | 47.00 | 1190.0           | 807.5           | 119.29         | 1.6596    | 1.416    |
| ***** Start Flow 2  | 0.00  | 408.7            | 0.0             | 119.23         |           |          |
|                     | 1.00  | 415.7            | 7.0             | 119.09         |           |          |
|                     | 2.00  | 423.4            | 14.7            | 118.95         |           |          |
|                     | 3.00  | 430.9            | 22.2            | 118.87         |           |          |
|                     | 4.00  | 438.6            | 29.9            | 118.83         |           |          |
|                     | 5.00  | 446.2            | 37.5            | 118.82         |           |          |
|                     | 6.00  | 453.8            | 45.1            | 118.83         |           |          |
|                     | 7.00  | 461.6            | 52.9            | 118.85         |           |          |
|                     | 8.00  | 469.3            | 60.6            | 118.88         |           |          |
|                     | 9.00  | 476.4            | 67.7            | 118.91         |           |          |
|                     | 10.00 | 483.9            | 75.2            | 118.94         |           |          |
|                     | 11.00 | 490.7            | 82.0            | 118.97         |           |          |
|                     | 12.00 | 497.5            | 88.8            | 118.99         |           |          |
|                     | 13.00 | 504.5            | 95.8            | 119.01         |           |          |
|                     | 14.00 | 511.2            | 102.5           | 119.04         |           |          |
|                     | 15.00 | 517.8            | 109.1           | 119.06         |           |          |
|                     | 16.00 | 524.5            | 115.8           | 119.07         |           |          |
|                     | 17.00 | 530.9            | 122.2           | 119.08         |           |          |
|                     | 18.00 | 537.2            | 128.5           | 119.09         |           |          |
|                     | 19.00 | 543.8            | 135.1           | 119.10         |           |          |
|                     | 20.00 | 550.0            | 141.3           | 119.10         |           |          |
|                     | 21.00 | 555.9            | 147.2           | 119.11         |           |          |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10324 DST #3 Titus #2 Abercrombie Drlg.Inc.

DATE: 08/24/97

TIME: 16:00:22

| Time                 | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6      |
|----------------------|------------------|-----------------|----------------|-----------|---------------|
| 22.00                | 561.9            | 153.2           | 119.10         |           |               |
| 23.00                | 567.8            | 159.1           | 119.11         |           |               |
| 24.00                | 573.7            | 165.0           | 119.11         |           |               |
| 25.00                | 579.2            | 170.5           | 119.11         |           |               |
| 26.00                | 585.1            | 176.4           | 119.11         |           |               |
| 27.00                | 590.7            | 182.0           | 119.11         |           |               |
| 28.00                | 596.5            | 187.8           | 119.09         |           |               |
| 29.00                | 601.7            | 193.0           | 119.10         |           |               |
| 30.00                | 607.2            | 198.5           | 119.09         |           |               |
| 31.00                | 612.0            | 203.3           | 119.09         |           |               |
| 32.00                | 617.7            | 209.0           | 119.08         |           |               |
| 33.00                | 622.6            | 213.9           | 119.07         |           |               |
| 34.00                | 627.8            | 219.1           | 119.06         |           |               |
| 35.00                | 632.8            | 224.1           | 119.06         |           |               |
| 36.00                | 637.8            | 229.1           | 119.05         |           |               |
| 37.00                | 642.8            | 234.1           | 119.04         |           |               |
| 38.00                | 647.4            | 238.7           | 119.04         |           |               |
| 39.00                | 652.3            | 243.6           | 119.03         |           |               |
| 40.00                | 656.9            | 248.2           | 119.03         |           |               |
| 41.00                | 661.8            | 253.1           | 119.02         |           |               |
| 42.00                | 666.3            | 257.6           | 119.02         |           |               |
| 43.00                | 671.0            | 262.3           | 119.00         |           |               |
| 44.00                | 675.3            | 266.6           | 119.00         |           |               |
| 45.00                | 680.0            | 271.3           | 118.99         |           |               |
| 46.00                | 684.4            | 275.7           | 118.97         |           |               |
| 47.00                | 688.8            | 280.1           | 118.97         |           |               |
| 48.00                | 693.2            | 284.5           | 118.97         |           |               |
| 49.00                | 697.4            | 288.7           | 118.96         |           |               |
| 50.00                | 701.8            | 293.1           | 118.97         |           |               |
| 51.00                | 706.0            | 297.3           | 118.96         |           |               |
| 52.00                | 710.0            | 301.3           | 118.94         |           |               |
| 53.00                | 714.0            | 305.3           | 118.94         |           |               |
| 54.00                | 718.1            | 309.4           | 118.94         |           |               |
| 55.00                | 722.0            | 313.3           | 118.93         |           |               |
| 56.00                | 725.8            | 317.1           | 118.93         |           |               |
| 57.00                | 729.9            | 321.2           | 118.92         |           |               |
| ***** End Flow 2     |                  |                 |                |           |               |
| ***** Start Shutin 2 | 0.00             | 729.9           | 0.0            | 118.92    | 0.0000 0.533  |
|                      | 1.00             | 980.8           | 251.0          | 118.92    | 89.0000 0.962 |
|                      | 2.00             | 1034.8          | 304.9          | 118.92    | 45.0000 1.071 |
|                      | 3.00             | 1057.1          | 327.2          | 118.93    | 30.3333 1.117 |
|                      | 4.00             | 1071.2          | 341.3          | 118.96    | 23.0000 1.147 |
|                      | 5.00             | 1081.3          | 351.5          | 118.99    | 18.6000 1.169 |
|                      | 6.00             | 1089.3          | 359.4          | 119.03    | 15.6667 1.187 |
|                      | 7.00             | 1095.8          | 366.0          | 119.05    | 13.5714 1.201 |
|                      | 8.00             | 1101.4          | 371.5          | 119.08    | 12.0000 1.213 |
|                      | 9.00             | 1106.2          | 376.3          | 119.11    | 10.7778 1.224 |
|                      | 10.00            | 1110.5          | 380.6          | 119.12    | 9.8000 1.233  |
|                      | 11.00            | 1114.3          | 384.4          | 119.19    | 9.0000 1.242  |
|                      | 12.00            | 1117.6          | 387.8          | 119.17    | 8.3333 1.249  |
|                      | 13.00            | 1120.9          | 391.0          | 119.19    | 7.7692 1.256  |
|                      | 14.00            | 1123.7          | 393.9          | 119.20    | 7.2857 1.263  |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10324 DST #3 Titus #2 Abercrombie Drlg.Inc.

DATE: 08/24/97

TIME: 16:00:22

|                     | Time   | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|---------------------|--------|------------------|-----------------|----------------|-----------|----------|
|                     | 15.00  | 1126.4           | 396.6           | 119.20         | 6.8667    | 1.269    |
|                     | 16.00  | 1128.9           | 399.0           | 119.22         | 6.5000    | 1.274    |
|                     | 17.00  | 1131.3           | 401.4           | 119.22         | 6.1765    | 1.280    |
|                     | 18.00  | 1133.4           | 403.5           | 119.24         | 5.8889    | 1.285    |
|                     | 19.00  | 1135.5           | 405.7           | 119.24         | 5.6316    | 1.289    |
|                     | 20.00  | 1137.4           | 407.6           | 119.24         | 5.4000    | 1.294    |
|                     | 21.00  | 1139.3           | 409.4           | 119.24         | 5.1905    | 1.298    |
|                     | 22.00  | 1141.0           | 411.1           | 119.24         | 5.0000    | 1.302    |
|                     | 23.00  | 1142.6           | 412.8           | 119.23         | 4.8261    | 1.306    |
|                     | 24.00  | 1144.1           | 414.3           | 119.21         | 4.6667    | 1.309    |
|                     | 25.00  | 1145.7           | 415.8           | 119.24         | 4.5200    | 1.313    |
|                     | 26.00  | 1147.0           | 417.2           | 119.23         | 4.3846    | 1.316    |
|                     | 27.00  | 1148.4           | 418.6           | 119.22         | 4.2593    | 1.319    |
|                     | 28.00  | 1149.8           | 419.9           | 119.21         | 4.1429    | 1.322    |
|                     | 29.00  | 1151.0           | 421.2           | 119.20         | 4.0345    | 1.325    |
|                     | 30.00  | 1152.2           | 422.3           | 119.18         | 3.9333    | 1.327    |
|                     | 31.00  | 1153.3           | 423.5           | 119.18         | 3.8387    | 1.330    |
|                     | 32.00  | 1154.4           | 424.5           | 119.15         | 3.7500    | 1.333    |
|                     | 33.00  | 1155.5           | 425.6           | 119.15         | 3.6667    | 1.335    |
|                     | 34.00  | 1156.5           | 426.7           | 119.14         | 3.5882    | 1.338    |
|                     | 35.00  | 1157.4           | 427.6           | 119.12         | 3.5143    | 1.340    |
|                     | 36.00  | 1158.4           | 428.5           | 119.11         | 3.4444    | 1.342    |
|                     | 37.00  | 1159.3           | 429.4           | 119.12         | 3.3784    | 1.344    |
|                     | 38.00  | 1160.2           | 430.3           | 119.05         | 3.3158    | 1.346    |
|                     | 39.00  | 1161.0           | 431.2           | 119.05         | 3.2564    | 1.348    |
|                     | 40.00  | 1161.9           | 432.0           | 119.03         | 3.2000    | 1.350    |
|                     | 41.00  | 1162.6           | 432.7           | 119.01         | 3.1463    | 1.352    |
|                     | 42.00  | 1163.5           | 433.6           | 118.98         | 3.0952    | 1.354    |
|                     | 43.00  | 1164.1           | 434.3           | 118.96         | 3.0465    | 1.355    |
|                     | 44.00  | 1164.9           | 435.0           | 118.95         | 3.0000    | 1.357    |
|                     | 45.00  | 1165.6           | 435.7           | 118.92         | 2.9556    | 1.359    |
| ***** End Shut-in 2 | 46.00  | 1166.2           | 436.4           | 118.90         | 2.9130    | 1.360    |
| ***** Final Hydro.  | 290.00 | 2189.4           | 0.0             | 118.90         |           |          |

# TEST HISTORY

10324 DST #3 Titus #2 Abercrombie Drlg. Inc.

## Flag Points

t (Min.) P (PSig)

A: 0.00 2241.61  
 B: 0.00 101.60  
 C: 31.00 382.52  
 D: 47.00 1190.04  
 E: 0.00 408.70  
 F: 57.00 729.86  
 G: 46.00 1166.21  
 Q: 0.00 2189.36

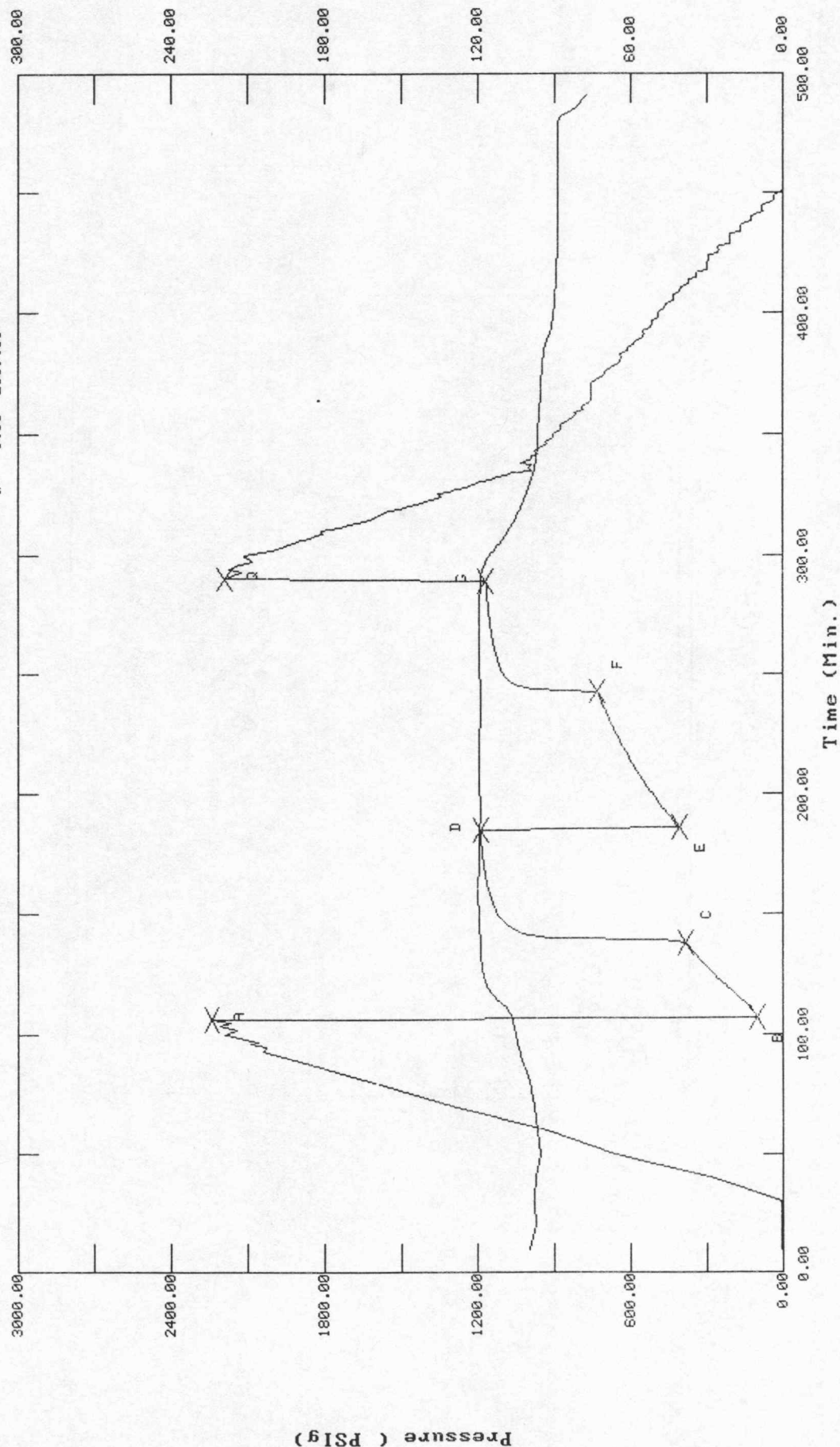
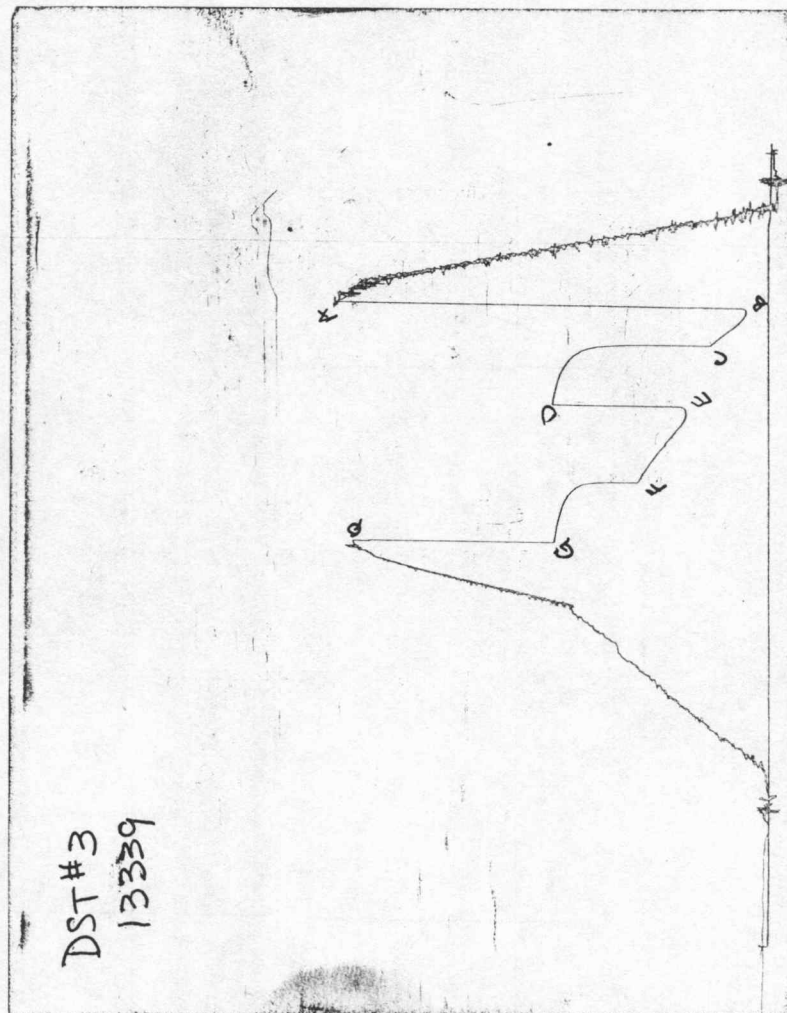


CHART PAGE



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

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

Nº 10324

|                 |                            |                           |                 |                 |                                      |
|-----------------|----------------------------|---------------------------|-----------------|-----------------|--------------------------------------|
| Well Name & No. | Titus #2                   | Test No.                  | 3               | Date            | 8-24-97                              |
| Company         | Abercrombie Drilling, Inc. | Zone Tested               | Beamer          |                 |                                      |
| Address         | 150 N Main Ste 801         | Wichita, KS               | 67202           | Elevation       | 3160 KB 3155 GL                      |
| Co. Rep / Geo.  | Tom Funk                   | Cont.                     | Abercrombie #4  | Est. Ft. of Pay | Por. %                               |
| Location: Sec.  | 26                         | Twp.                      | 20 <sup>S</sup> | Rge.            | 35 <sup>W</sup> Co. Wichita State KS |
| No. of Copies   |                            | Distribution Sheet (Y, N) | N               | Turnkey (Y, N)  | N Evaluation (Y, N)                  |

|                     |                                                                                                                                                                                                             |                      |            |                       |                         |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------|-----------------------|-------------------------|
| Interval Tested     | 4582 - 4605                                                                                                                                                                                                 | Initial Str Wt./Lbs. | 68,000     | Unseated Str Wt./Lbs. | 74,000                  |
| Anchor Length       | 23'                                                                                                                                                                                                         | Wt. Set Lbs.         | 30,000     | Wt. Pulled Loose/Lbs. | 80,000                  |
| Top Packer Depth    | 4577                                                                                                                                                                                                        | Tool Weight          | 1,800      |                       |                         |
| Bottom Packer Depth | 4582                                                                                                                                                                                                        | Hole Size — 7 7/8"   |            | Rubber Size — 6 3/4"  |                         |
| Total Depth         | 4605                                                                                                                                                                                                        | Wt. Pipe Run         | 319'       | Drill Collar Run      | —                       |
| Mud Wt.             | 9.1 LCM                                                                                                                                                                                                     | Vis.                 | 51 WL 10.4 | Drill Pipe Size       | 4 1/2" XH Ft. Run 4256' |
| Blow Description    | IF: Strong blow off btm in 1 min.<br>ISI: Bled off blow - surface return built to btm in 5 mins.<br>FF: Fair to strong blow off btm in 1 min. GTS @ 30 mins<br>FSI: Bled off blow - built to btm in 5 mins. |                      |            |                       |                         |

|                                  |       |            |           |                 |         |                      |                            |
|----------------------------------|-------|------------|-----------|-----------------|---------|----------------------|----------------------------|
| Recovery — Total Feet            | 2110' | GIP        |           | Ft. in DC       | —       | Ft. in DP            | 2110'                      |
| Rec.                             |       | Feet Of    |           | %gas            | %oil    | %water               | %mud                       |
| Rec.                             | 1930' | Feet Of    | Gassy Oil | 40              | %gas 60 | %oil                 | %water %mud                |
| Rec.                             | 180'  | Feet Of    | G&MC Oil  | 10              | %gas 60 | %oil                 | %water 30 %mud             |
| Rec.                             |       | Feet Of    |           | %gas            | %oil    | %water               | %mud                       |
| Rec.                             |       | Feet Of    |           | %gas            | %oil    | %water               | %mud                       |
| BHT                              | 119°  | °F Gravity | 34        | °API D@         | 70°     | °F Corrected Gravity | 33 °API                    |
| RW                               |       | @          |           | °F Chlorides    |         | ppm Recovery         | Chlorides 6,500 ppm System |
| (A) Initial Hydrostatic Mud      | 2223  | 2168       | PSI       | Recorder No.    | 2346    | T-Started            | 1400                       |
| (B) First Initial Flow Pressure  | 104   | 101        | PSI       | (depth)         | 4585    | T-Open               | 1647                       |
| (C) First Final Flow Pressure    | 291   | 382        | PSI       | Recorder No.    | 13339   | T-Pulled             | 2047                       |
| (D) Initial Shut-in Pressure     | 1130  | 1190       | PSI       | (depth)         | 4600    | T-Out                | 0015                       |
| (E) Second Initial Flow Pressure | 436   | 408        | PSI       | Recorder No.    | —       |                      |                            |
| (F) Second Final Flow Pressure   | 689   | 729        | PSI       | (depth)         | —       |                      |                            |
| (G) Final Shut-in Pressure       | 1130  | 1166       | PSI       | Initial Opening | 30      | Test                 |                            |
| (H) Final Hydrostatic Mud        | 2173  | 2164       | PSI       | Initial Shut-in | 45      | Jars                 |                            |

|               |    |              |  |
|---------------|----|--------------|--|
| Final Flow    | 60 | Safety Joint |  |
| Final Shut-in | 45 | Straddle     |  |

TRILOBITE TESTING L.L.C. 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 [Signature]  
Our Representative Rod Steinbrink

|                |   |     |
|----------------|---|-----|
| Circ. Sub      | X | N/C |
| Sampler        |   |     |
| Extra Packer   |   |     |
| Elect. Rec.    | X |     |
| Other          |   |     |
| TOTAL PRICE \$ |   |     |