15-051-24912 14-13s-20w

| | |
|---|---|
| **WELL NAME:** | Calvert #1-14 |
| **OPERATOR:** | Downing-Nelson Oil Co |
| **LOCATION:** | Sec 14 Rge 13S Twp 20W<br>Ellis County Kansas |
| **DATE:** | 02/21/96 |

TRILOBITE TESTING L.L.C.

OPERATOR : Downing-Nelson Oil Co
WELL NAME: Calvert #1-14
LOCATION : 14-13S-20W, Ellis Cty KS
INTERVAL : 3487.00 To 3530.00 ft

DATE 2-19-96
KB 2155.00 ft
GR 2147.00 ft
TD 3530.00 ft
TICKET NO: 8815 DST #1
FORMATION: Lans C-D
TEST TYPE: CONV.

RECORDER DATA

| Mins | | Field | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| PF 30 | Rec. | 11058 | 11058 | 23428 | | |
| SI 45 | Range(Psi ) | 4500.0 | 4500.0 | 4995.0 | 0.0 | 0.0 |
| SF 30 | Clock(hrs) | AK-1 | AK-1 | Alpin | | |
| FS 45 | Depth(ft ) | 3535.0 | 3535.0 | 3391.0 | 0.0 | 0.0 |

TIME DATA----------
PF Fr. 1735 to 1805 hr
IS Fr. 1805 to 1850 hr
SF Fr. 1850 to 1920 hr
FS Fr. 1920 to 2005 hr

| | Field | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| A. Init Hydro | 1725.0 | 1725.0 | 1726.0 | 0.0 | 0.0 |
| B. First Flow | 94.0 | 89.0 | 81.0 | 0.0 | 0.0 |
| B1. Final Flow | 188.0 | 186.0 | 208.0 | 0.0 | 0.0 |
| C. In Shut-in | 867.0 | 867.0 | 877.0 | 0.0 | 0.0 |
| D. Init Flow | 238.0 | 241.0 | 207.0 | 0.0 | 0.0 |
| E. Final Flow | 305.0 | 313.0 | 326.0 | 0.0 | 0.0 |
| F. Fl Shut-in | 856.0 | 862.0 | 867.0 | 0.0 | 0.0 |
| G. Final Hydro | 1702.0 | 1630.0 | 1666.0 | 0.0 | 0.0 |
| Inside/Outside | O | O | I | | |

T STARTED 1552 hr
T ON BOTM 1732 hr
T OPEN 1735 hr
T PULLED 2005 hr
T OUT 2215 hr

RECOVERY
Tot Fluid 720.00 ft of 30.00 ft in DC and 690.00 ft in DP
870.00 ft of Gas in pipe
90.00 ft of Gassy watery oil- 20% gas, 10% water, 70% oil
150.00 ft of Gassy watery oil- 5% gas, 35% water, 60% oil
120.00 ft of Watery oil- 60% water, 40% oil
360.00 ft of Muddy water- 90% water, 10% mud, trace oil

RW .2 @ 50 F
SALINITY 54000.00 P.P.M. A.P.I. Gravity 0.00

TOOL DATA----------

| | |
|---|---|
| Tool Wt. | 5000.00 lbs |
| Wt Set On Packer | 25000.00 lbs |
| Wt Pulled Loose | 62000.00 lbs |
| Initial Str Wt | 40000.00 lbs |
| Unseated Str Wt | 45000.00 lbs |
| Bot Choke | 0.75 in |
| Hole Size | 7.88 in |
| D Col. ID | 2.25 in |
| D. Pipe ID | 3.80 in |
| D.C. Length | 30.00 ft |
| D.P. Length | 3452.00 ft |

BLOW DESCRIPTION
Initial Flow -
Bottom of bucket in 5 min

Initial Shutin -
Return in 2 min, built to bottom of bucket in 25 min

Final Flow -
Bottom of bucket at open

Final Shutin -
Return blow in 1 min built to 10.5" died back to 8.5"

SAMPLES:
SENT TO:

MUD DATA----------

| | |
|---|---|
| Mud Type | Chem |
| Weight | 9.10 lb/c |
| Vis. | 50.00 S/L |
| W.L. | 0.00 in3 |
| F.C. | 10.40 in |
| Mud Drop Y | 12.0 ft |
| Amt. of fill | 0.00 ft |
| Btm. H. Temp. | 123.00 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 | Shane McBride |
| Co. Rep. | Ron Nelson |
| Contr. | Discovery |
| Rig # | 1 |
| Unit # | |
| Pump T. | |

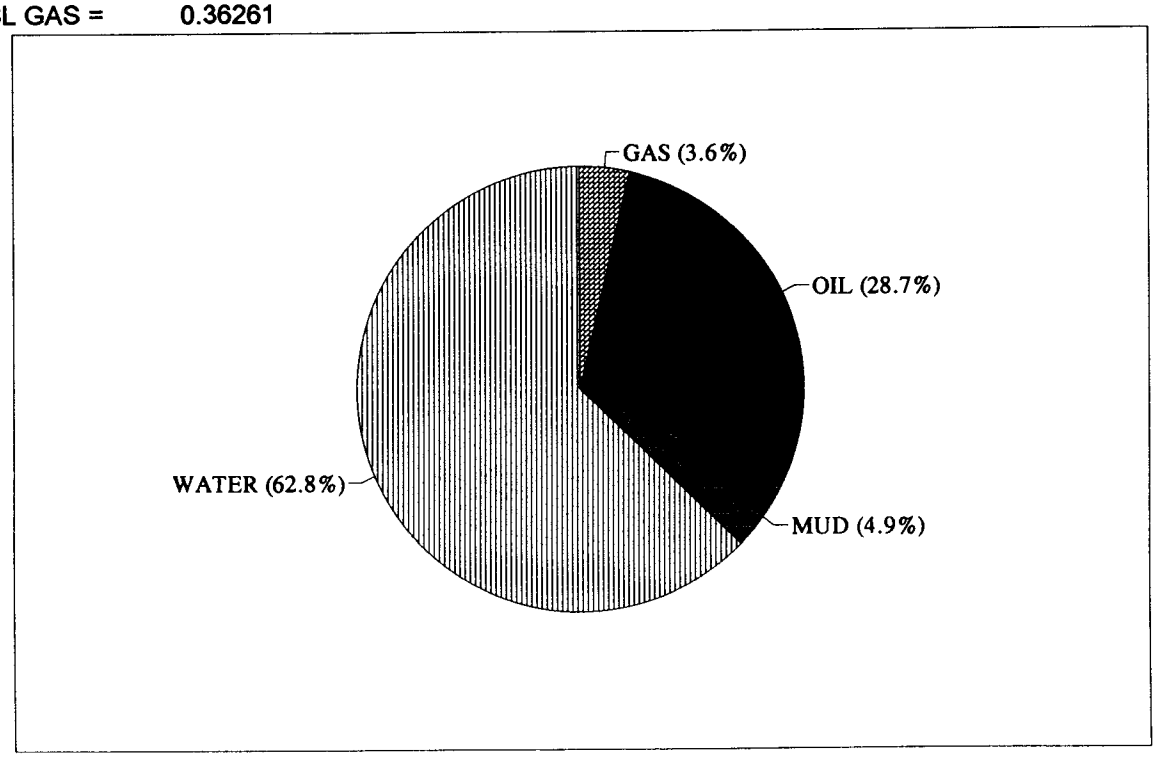
Test Successful:

## CALCULATED RECOVERY ANALYSIS

DST # 1 TICKET # 8815

| SAMPLE # | | TOTAL FEET | % | GAS FEET | % | OIL FEET | % | WATER FEET | % | MUD FEET |
|---|---|---|---|---|---|---|---|---|---|---|
| DRL PIPE | 1 | 90 | 20 | 18 | 70 | 63 | 10 | 9 | | 0 |
| | 2 | 150 | 5 | 7.5 | 60 | 90 | 35 | 52.5 | | 0 |
| | 3 | 120 | | 0 | 40 | 48 | 60 | 72 | | 0 |
| | 4 | 330 | | 0 | | 0 | 90 | 297 | 10 | 33 |
| | 5 | | | 0 | | 0 | | 0 | | 0 |
| | 6 | | | 0 | | 0 | | 0 | | 0 |
| WGT PIPE | 1 | | | 0 | | 0 | | 0 | | 0 |
| | 2 | | | 0 | | 0 | | 0 | | 0 |
| | 3 | | | 0 | | 0 | | 0 | | 0 |
| | 4 | | | 0 | | 0 | | 0 | | 0 |
| COLLARS | 1 | 30 | | 0 | | 0 | 90 | 27 | 10 | 3 |
| | 2 | | | 0 | | 0 | | 0 | | 0 |
| | 3 | | | 0 | | 0 | | 0 | | 0 |
| | 4 | | | 0 | | 0 | | 0 | | 0 |
| | 5 | | | 0 | | 0 | | 0 | | 0 |
| TOTAL | | 720 | | 25.5 | | 201 | | 457.5 | | 36 |

| | | | HRS OPE | BBL/DAY |
|---|---|---|---|---|
| BBL OIL= | 2.85822 | * | 1 | 68.5973 |
| BBL WATER= | 6.25374 | * | | 150.09 |
| BBL MUD= | 0.48393 | | | |
| BBL GAS = | 0.36261 | | | |

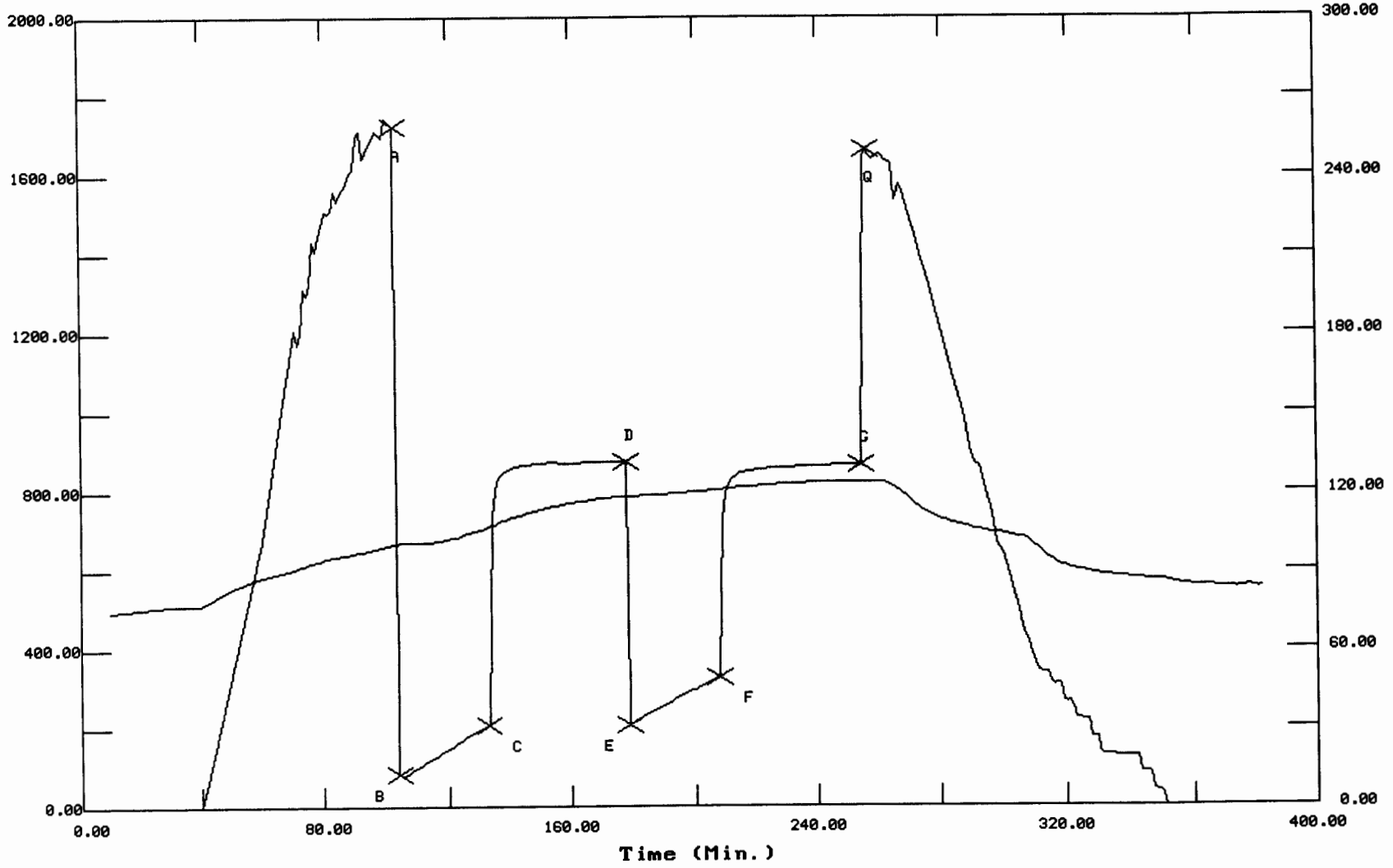


# TEST HISTORY

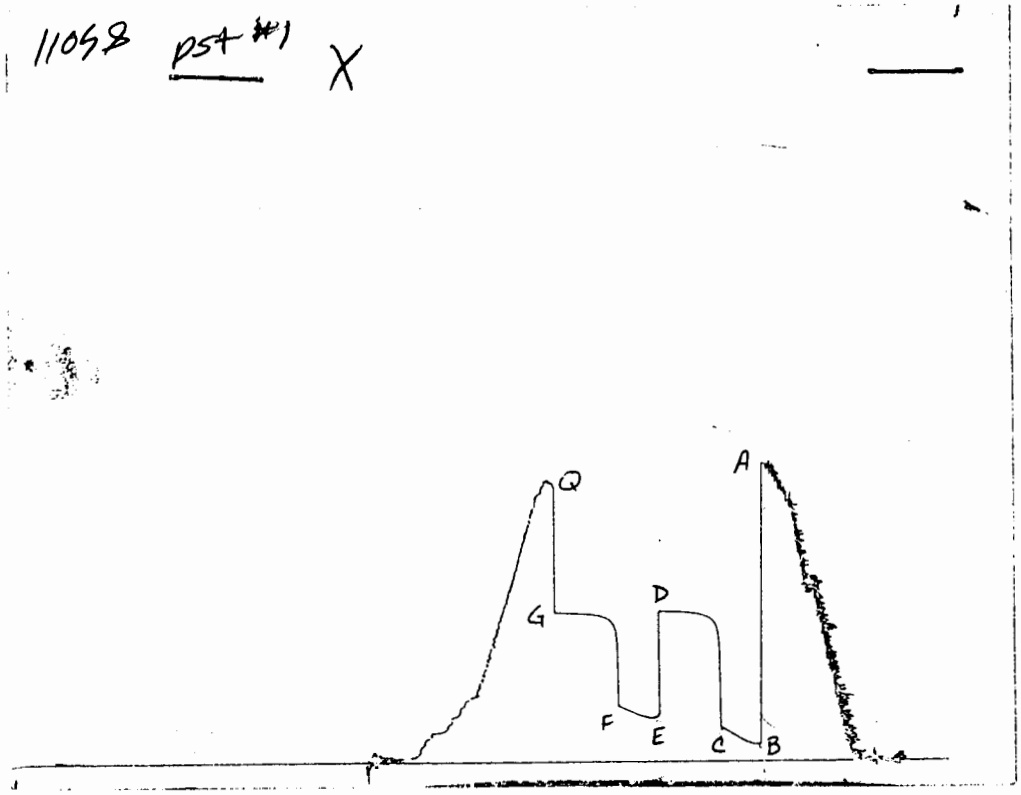
8815 Downing Nelson Oil Company Calvert #1-14 DST #1

Flag Points

| | t(Min.) | P( PSIg) |
|---|---|---|
| A: | 0.00 | 1726.05 |
| B: | 0.00 | 80.73 |
| C: | 29.00 | 207.80 |
| D: | 45.00 | 877.46 |
| E: | 0.00 | 206.79 |
| F: | 29.00 | 326.47 |
| G: | 46.00 | 867.72 |
| Q: | 0.00 | 1665.96 |



# CHART PAGE




This is an actual photograph of recorder chart

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8815 Downing Nelson Oil Company Calvert #1-14 DST #1

DATE: 02/19/96 TIME: 15:54:24

| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| ****** Initial Hydro. | 103.00 | 1726.1 | 0.0 | 100.22 | | |
| ****** Start Flow 1 | 0.00 | 80.7 | 0.0 | 100.22 | | |
| | 1.00 | 78.7 | -2.0 | 100.40 | | |
| | 2.00 | 80.0 | -0.8 | 100.58 | | |
| | 3.00 | 83.9 | 3.2 | 100.58 | | |
| | 4.00 | 89.0 | 8.3 | 100.58 | | |
| | 5.00 | 93.8 | 13.1 | 100.58 | | |
| | 6.00 | 98.7 | 18.0 | 100.58 | | |
| | 7.00 | 103.6 | 22.9 | 100.76 | | |
| | 8.00 | 108.8 | 28.1 | 100.76 | | |
| | 9.00 | 113.5 | 32.8 | 100.76 | | |
| | 10.00 | 118.6 | 37.9 | 100.94 | | |
| | 11.00 | 123.4 | 42.7 | 100.94 | | |
| | 12.00 | 128.4 | 47.7 | 101.12 | | |
| | 13.00 | 133.3 | 52.5 | 101.30 | | |
| | 14.00 | 138.2 | 57.5 | 101.48 | | |
| | 15.00 | 142.8 | 62.1 | 101.66 | | |
| | 16.00 | 147.7 | 67.0 | 101.84 | | |
| | 17.00 | 152.5 | 71.8 | 102.20 | | |
| | 18.00 | 157.3 | 76.5 | 102.56 | | |
| | 19.00 | 162.2 | 81.5 | 102.74 | | |
| | 20.00 | 167.2 | 86.4 | 103.10 | | |
| | 21.00 | 173.2 | 92.5 | 103.64 | | |
| | 22.00 | 178.9 | 98.2 | 104.00 | | |
| | 23.00 | 183.5 | 102.8 | 104.36 | | |
| | 24.00 | 188.2 | 107.5 | 104.72 | | |
| | 25.00 | 192.3 | 111.5 | 105.08 | | |
| | 26.00 | 195.2 | 114.5 | 105.44 | | |
| | 27.00 | 199.4 | 118.7 | 105.80 | | |
| | 28.00 | 203.8 | 123.0 | 106.34 | | |
| ****** End Flow 1 | 29.00 | 207.8 | 127.1 | 106.70 | | |
| ****** Start Shutin 1 | 0.00 | 207.8 | 0.0 | 106.70 | 0.0000 | 0.043 |
| | 1.00 | 740.1 | 532.3 | 107.06 | 30.0000 | 0.548 |
| | 2.00 | 801.9 | 594.1 | 107.60 | 15.5000 | 0.643 |
| | 3.00 | 826.5 | 618.7 | 107.96 | 10.6667 | 0.683 |
| | 4.00 | 839.6 | 631.8 | 108.32 | 8.2500 | 0.705 |
| | 5.00 | 847.7 | 639.9 | 108.86 | 6.8000 | 0.719 |
| | 6.00 | 853.2 | 645.4 | 109.22 | 5.8333 | 0.728 |
| | 7.00 | 857.1 | 649.3 | 109.58 | 5.1429 | 0.735 |
| | 8.00 | 860.0 | 652.2 | 110.12 | 4.6250 | 0.740 |
| | 9.00 | 862.3 | 654.5 | 110.48 | 4.2222 | 0.744 |
| | 10.00 | 864.2 | 656.4 | 110.84 | 3.9000 | 0.747 |
| | 11.00 | 865.8 | 658.0 | 111.20 | 3.6364 | 0.750 |
| | 12.00 | 867.1 | 659.3 | 111.56 | 3.4167 | 0.752 |
| | 13.00 | 868.2 | 660.4 | 111.92 | 3.2308 | 0.754 |
| | 14.00 | 869.1 | 661.4 | 112.28 | 3.0714 | 0.755 |
| | 15.00 | 870.2 | 662.4 | 112.64 | 2.9333 | 0.757 |
| | 16.00 | 871.1 | 663.3 | 113.00 | 2.8125 | 0.759 |
| | 17.00 | 871.8 | 664.0 | 113.18 | 2.7059 | 0.760 |
| | 18.00 | 872.5 | 664.7 | 113.54 | 2.6111 | 0.761 |
| | 19.00 | 873.1 | 665.3 | 113.72 | 2.5263 | 0.762 |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8815 Downing Nelson Oil Company Calvert #1-14 DST #1

DATE: 02/19/96 TIME: 15:54:24

| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| | 20.00 | 873.8 | 666.0 | 114.08 | 2.4500 | 0.763 |
| | 21.00 | 874.3 | 666.5 | 114.26 | 2.3810 | 0.764 |
| | 22.00 | 874.7 | 666.9 | 114.62 | 2.3182 | 0.765 |
| | 23.00 | 870.7 | 662.9 | 114.80 | 2.2609 | 0.758 |
| | 24.00 | 871.2 | 663.4 | 114.98 | 2.2083 | 0.759 |
| | 25.00 | 871.6 | 663.8 | 115.34 | 2.1600 | 0.760 |
| | 26.00 | 872.0 | 664.2 | 115.52 | 2.1154 | 0.760 |
| | 27.00 | 872.4 | 664.6 | 115.70 | 2.0741 | 0.761 |
| | 28.00 | 872.8 | 665.0 | 115.88 | 2.0357 | 0.762 |
| | 29.00 | 873.2 | 665.4 | 116.06 | 2.0000 | 0.762 |
| | 30.00 | 873.5 | 665.7 | 116.24 | 1.9667 | 0.763 |
| | 31.00 | 873.8 | 666.0 | 116.42 | 1.9355 | 0.763 |
| | 32.00 | 874.1 | 666.3 | 116.60 | 1.9062 | 0.764 |
| | 33.00 | 874.5 | 666.7 | 116.78 | 1.8788 | 0.765 |
| | 34.00 | 874.7 | 666.9 | 116.96 | 1.8529 | 0.765 |
| | 35.00 | 875.1 | 667.3 | 117.14 | 1.8286 | 0.766 |
| | 36.00 | 875.4 | 667.6 | 117.32 | 1.8056 | 0.766 |
| | 37.00 | 875.6 | 667.8 | 117.32 | 1.7838 | 0.767 |
| | 38.00 | 875.9 | 668.1 | 117.50 | 1.7632 | 0.767 |
| | 39.00 | 876.1 | 668.3 | 117.68 | 1.7436 | 0.768 |
| | 40.00 | 876.4 | 668.6 | 117.68 | 1.7250 | 0.768 |
| | 41.00 | 876.6 | 668.8 | 117.86 | 1.7073 | 0.768 |
| | 42.00 | 876.9 | 669.1 | 118.04 | 1.6905 | 0.769 |
| | 43.00 | 877.0 | 669.2 | 118.04 | 1.6744 | 0.769 |
| | 44.00 | 877.3 | 669.5 | 118.22 | 1.6591 | 0.770 |
| ***** End Shut-in 1 | 45.00 | 877.5 | 669.7 | 118.22 | 1.6444 | 0.770 |
| ***** Start Flow 2 | 0.00 | 206.8 | 0.0 | 118.22 | | |
| | 1.00 | 211.6 | 4.8 | 118.40 | | |
| | 2.00 | 215.9 | 9.1 | 118.40 | | |
| | 3.00 | 220.5 | 13.7 | 118.40 | | |
| | 4.00 | 225.4 | 18.6 | 118.58 | | |
| | 5.00 | 229.9 | 23.1 | 118.58 | | |
| | 6.00 | 234.2 | 27.4 | 118.58 | | |
| | 7.00 | 238.5 | 31.7 | 118.58 | | |
| | 8.00 | 243.0 | 36.2 | 118.76 | | |
| | 9.00 | 247.3 | 40.5 | 118.76 | | |
| | 10.00 | 251.8 | 45.0 | 118.76 | | |
| | 11.00 | 256.2 | 49.4 | 118.94 | | |
| | 12.00 | 260.4 | 53.6 | 118.94 | | |
| | 13.00 | 264.5 | 57.7 | 119.12 | | |
| | 14.00 | 268.8 | 62.0 | 119.12 | | |
| | 15.00 | 272.8 | 66.1 | 119.12 | | |
| | 16.00 | 277.0 | 70.2 | 119.30 | | |
| | 17.00 | 281.1 | 74.4 | 119.48 | | |
| | 18.00 | 285.0 | 78.2 | 119.48 | | |
| | 19.00 | 289.0 | 82.2 | 119.66 | | |
| | 20.00 | 292.9 | 86.1 | 119.66 | | |
| | 21.00 | 296.8 | 90.0 | 119.84 | | |
| | 22.00 | 300.5 | 93.7 | 119.84 | | |
| | 23.00 | 304.4 | 97.6 | 120.02 | | |
| | 24.00 | 308.3 | 101.6 | 120.20 | | |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING
TEST: 8815 Downing Nelson Oil Company Calvert #1-14 DST #1
DATE: 02/19/96 TIME: 15:54:24

| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| | 25.00 | 312.0 | 105.2 | 120.20 | | |
| | 26.00 | 315.6 | 108.8 | 120.38 | | |
| | 27.00 | 319.3 | 112.5 | 120.56 | | |
| | 28.00 | 322.7 | 115.9 | 120.56 | | |
| ****** End Flow 2 | 29.00 | 326.5 | 119.7 | 120.74 | | |
| ****** Start Shutin 2 | 0.00 | 326.5 | 0.0 | 120.74 | 0.0000 | 0.107 |
| | 1.00 | 730.6 | 404.1 | 120.74 | 59.0000 | 0.534 |
| | 2.00 | 795.3 | 468.8 | 120.92 | 30.0000 | 0.632 |
| | 3.00 | 818.5 | 492.0 | 121.10 | 20.3333 | 0.670 |
| | 4.00 | 830.4 | 503.9 | 121.28 | 15.5000 | 0.690 |
| | 5.00 | 837.5 | 511.0 | 121.28 | 12.6000 | 0.701 |
| | 6.00 | 842.3 | 515.8 | 121.46 | 10.6667 | 0.709 |
| | 7.00 | 845.7 | 519.3 | 121.64 | 9.2857 | 0.715 |
| | 8.00 | 848.2 | 521.8 | 121.64 | 8.2500 | 0.720 |
| | 9.00 | 850.1 | 523.6 | 121.82 | 7.4444 | 0.723 |
| | 10.00 | 851.8 | 525.3 | 121.82 | 6.8000 | 0.726 |
| | 11.00 | 853.0 | 526.6 | 122.00 | 6.2727 | 0.728 |
| | 12.00 | 854.3 | 527.8 | 122.00 | 5.8333 | 0.730 |
| | 13.00 | 855.3 | 528.8 | 122.18 | 5.4615 | 0.732 |
| | 14.00 | 856.1 | 529.7 | 122.36 | 5.1429 | 0.733 |
| | 15.00 | 856.9 | 530.4 | 122.36 | 4.8667 | 0.734 |
| | 16.00 | 857.6 | 531.2 | 122.36 | 4.6250 | 0.736 |
| | 17.00 | 858.2 | 531.8 | 122.54 | 4.4118 | 0.737 |
| | 18.00 | 858.8 | 532.4 | 122.54 | 4.2222 | 0.738 |
| | 19.00 | 859.1 | 532.6 | 122.72 | 4.0526 | 0.738 |
| | 20.00 | 859.8 | 533.4 | 122.72 | 3.9000 | 0.739 |
| | 21.00 | 860.3 | 533.8 | 122.72 | 3.7619 | 0.740 |
| | 22.00 | 860.7 | 534.2 | 122.90 | 3.6364 | 0.741 |
| | 23.00 | 861.1 | 534.6 | 122.90 | 3.5217 | 0.741 |
| | 24.00 | 861.5 | 535.0 | 122.90 | 3.4167 | 0.742 |
| | 25.00 | 861.9 | 535.5 | 122.90 | 3.3200 | 0.743 |
| | 26.00 | 862.3 | 535.9 | 123.08 | 3.2308 | 0.744 |
| | 27.00 | 862.7 | 536.2 | 123.08 | 3.1481 | 0.744 |
| | 28.00 | 863.0 | 536.6 | 123.08 | 3.0714 | 0.745 |
| | 29.00 | 863.3 | 536.8 | 123.26 | 3.0000 | 0.745 |
| | 30.00 | 863.6 | 537.1 | 123.26 | 2.9333 | 0.746 |
| | 31.00 | 863.9 | 537.5 | 123.26 | 2.8710 | 0.746 |
| | 32.00 | 864.2 | 537.7 | 123.26 | 2.8125 | 0.747 |
| | 33.00 | 864.5 | 538.1 | 123.26 | 2.7576 | 0.747 |
| | 34.00 | 864.8 | 538.3 | 123.26 | 2.7059 | 0.748 |
| | 35.00 | 865.0 | 538.6 | 123.44 | 2.6571 | 0.748 |
| | 36.00 | 865.4 | 538.9 | 123.44 | 2.6111 | 0.749 |
| | 37.00 | 865.6 | 539.2 | 123.44 | 2.5676 | 0.749 |
| | 38.00 | 866.0 | 539.5 | 123.44 | 2.5263 | 0.750 |
| | 39.00 | 866.1 | 539.7 | 123.44 | 2.4872 | 0.750 |
| | 40.00 | 866.3 | 539.8 | 123.44 | 2.4500 | 0.750 |
| | 41.00 | 866.5 | 540.1 | 123.44 | 2.4146 | 0.751 |
| | 42.00 | 866.8 | 540.3 | 123.44 | 2.3810 | 0.751 |
| | 43.00 | 867.0 | 540.5 | 123.44 | 2.3488 | 0.752 |
| | 44.00 | 867.2 | 540.7 | 123.44 | 2.3182 | 0.752 |
| | 45.00 | 867.5 | 541.0 | 123.44 | 2.2889 | 0.753 |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8815 Downing Nelson Oil Company Calvert #1-14 DST #1

DATE: 02/19/96 TIME: 15:54:24

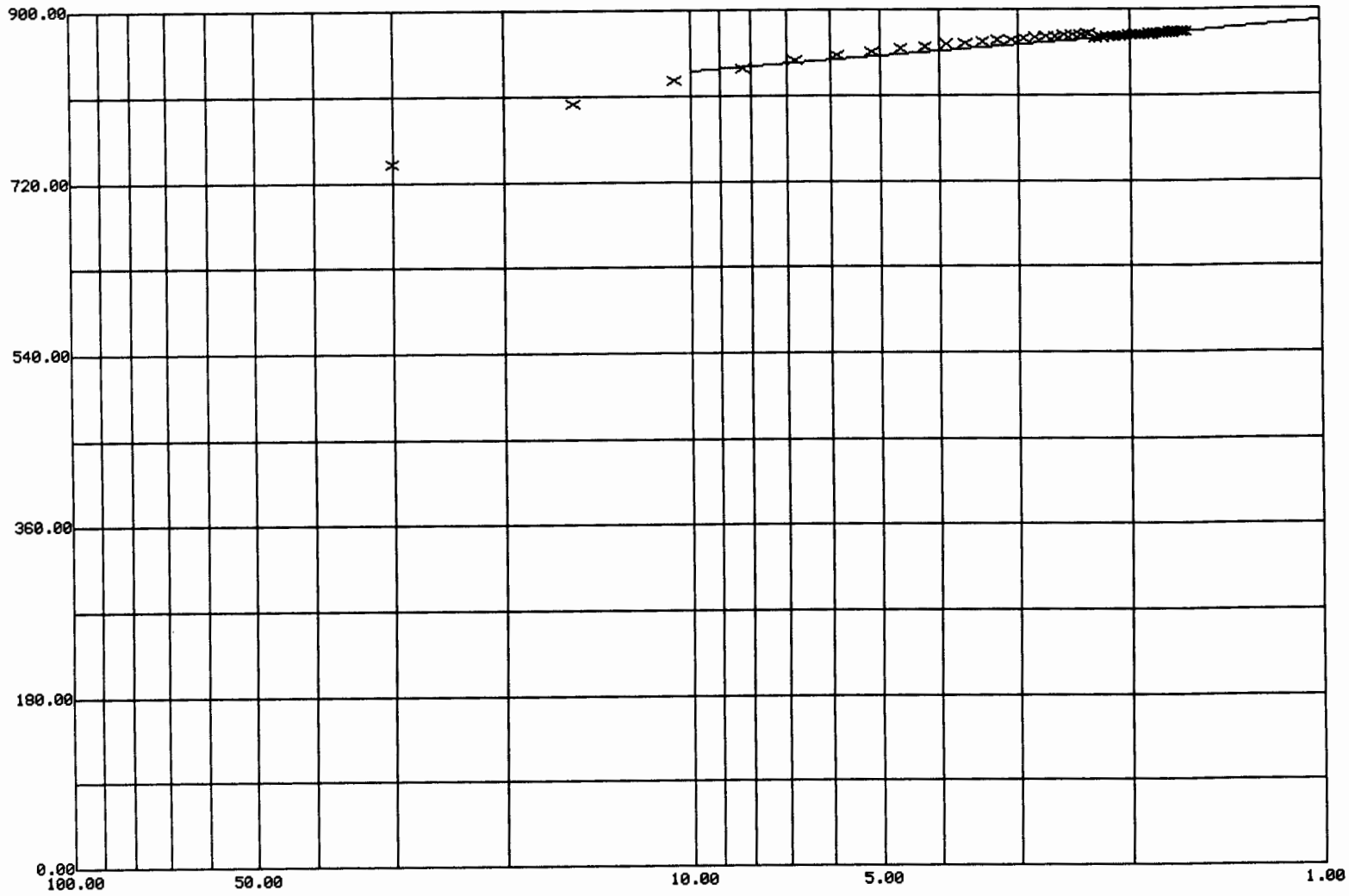
| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| ***** End Shut-in 2 | 46.00 | 867.7 | 541.3 | 123.44 | 2.2609 | 0.753 |
| ***** Final Hydro. | 256.00 | 1666.0 | 0.0 | 123.44 | | |

# Horner Plot: shut-in #1

8815 Downing Nelson Oil Company Calvert #1-14 DST #1

Slope: 51.4635 PSIg/cycle

Ext. Pressure: 888.5735 PSIg

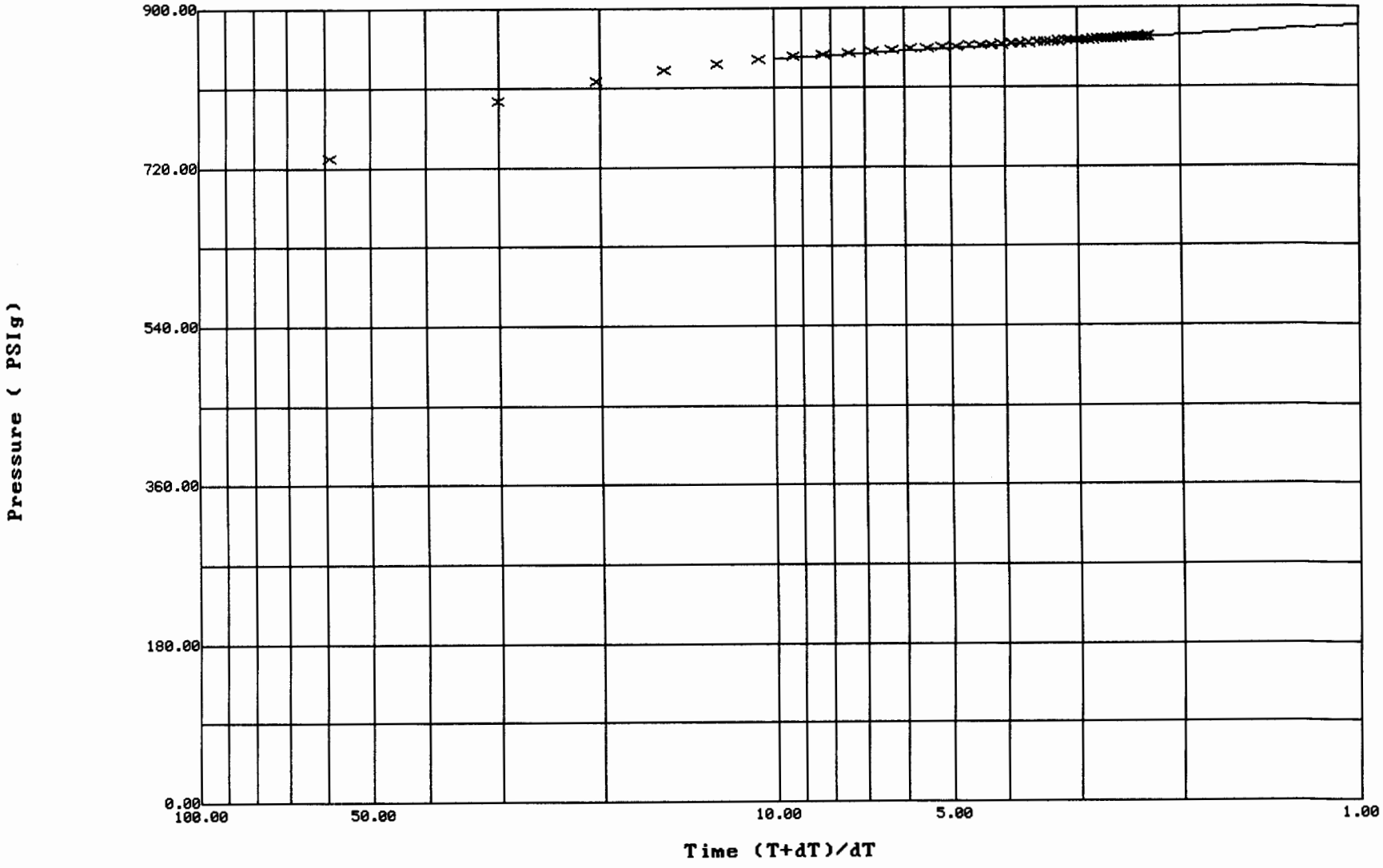


# Horner Plot: shut-in #2

8815 Downing Nelson Oil Company Calvert #1-14 DST #1

Slope: 36.6806 PSIg/cycle

Ext. Pressure: 880.6341 PSIg



*** TOOL DIAGRAM *** CONV.

WELL NAME: Calvert #1-14

LOCATION : 14-13S-20W, Ellis Cty KS

TICKET No. 8815 D.S.T. No. 1 DATE 2-19-96

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

INTERVAL TOOL .....

BOTTOM PACKERS AND ANCHOR ..... 11

TOTAL TOOL ..... 31

DRILL COLLAR ANCHOR IN INTERVAL .....

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands Single 1 Total 32

TOTAL ASSEMBLY ..... 63

D.C. ABOVE TOOLS.Stands Single 1 Total 30

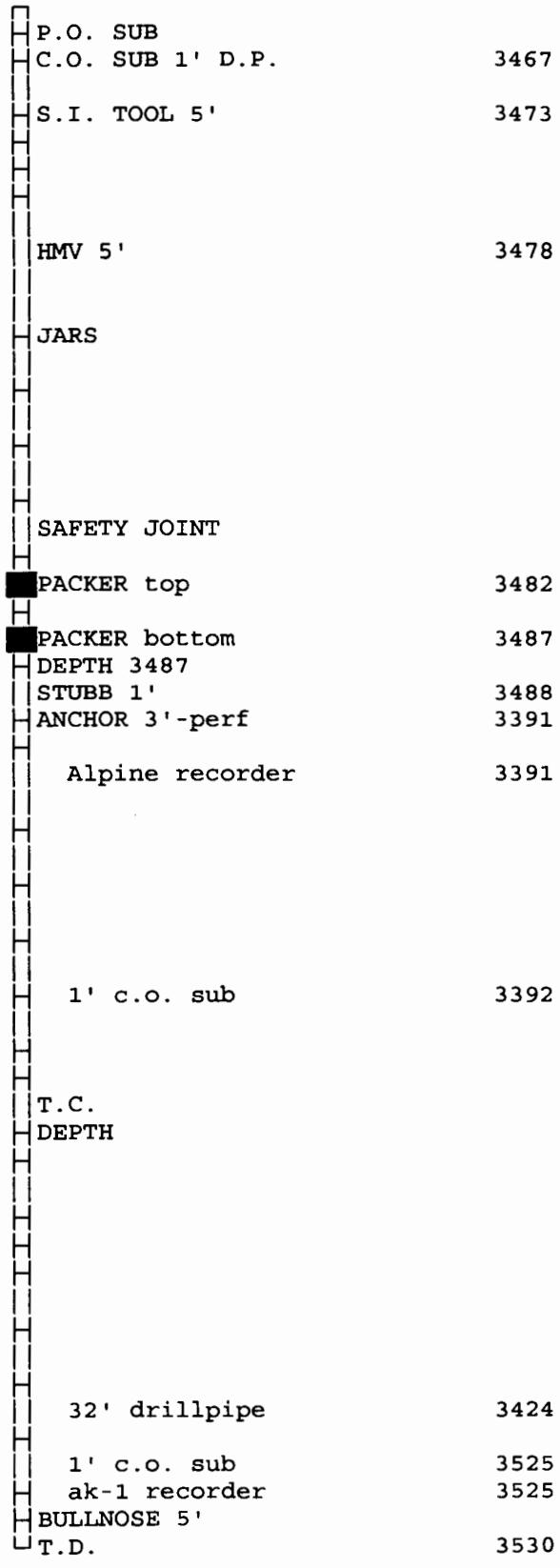
D.P. ABOVE TOOLS.Stands55 Single 1 Total 3452

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 3545

TOTAL DEPTH ..... 3530

TOTAL DRILL PIPE ABOVE K.B. ..... 15

REMARKS:



Well name Colvert

DST # 1

Recorder # 11058

| | | | | |
|---|---|---|---|---|
| | | | | 1 |
| A | | 1725 | | 2 |
| B | | 89 | | 3 |
| C | | 186 | | 4 |
| D | | 867 | | 5 |
| E | | 241 | | 6 |
| F | | 313 | | 7 |
| G | | 862 | | 8 |
| H | | 1630 | | 9 |
| | | | | 10 |
| | | | | 11 |
| | | | | 12 |

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

No 8815

Well Name & No. Calvert #1-14 Test No. 1 Date 2-19-96

Company Downing - Nelson O.L. Co. Inc Zone Tested Lans C-D

Address P.O. Box 372 Hays, KS 67601 Elevation 2155 KB 2157 GL

Co. Rep / Geo. Ron Nelson Cont. Discovery #1 Est. Ft. of Pay ___ Por. ___ %

Location: Sec. 14 Twp. 13 Rge. 20 Co. Ellis State KS

No. of Copies Norm. Distribution Sheet (Y, N) ___ Turnkey (Y, N) ___ Evaluation (Y, N) ___

Interval Tested 3487' - 3530' Initial Str Wt./Lbs. 40,000 Unseated Str Wt./Lbs. 45,000

Anchor Length 43' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 62,000

Top Packer Depth 3482' Hole Size — 7 7/8" ✓ Rubber Size — 6 3/4" ✓

Bottom Packer Depth 3487' Wt. Pipe I.D. — 2.7 Ft. Run —

Total Depth 3530' Drill Collar — 2.25 Ft. Run 30'

Mud Wt. ___ LCM ___ Vis. ___ WL 10.4 Drill Pipe Size 4½ XH Ft. Run 3452'

Blow Description B.O.B in 5m.w (Strong blow)

I.S.I: Bleed Blow return in 2m.w built to B.O.B in 25m.w.

F.F: B.O.B @ open (Strong Blow)

F.S.I: Bleed Blow return in 1m.w built to 10½" in died Back to 8½"

Recovery — Total Feet 720 Ft. in DC 30' Ft. in WP — Ft. in DP 690'

| | | | | | | |
|---|---|---|---|---|---|---|
| Rec. 90' | Feet Of ~~Gassy~~ Watery O.C. | 20 %gas | 70 %oil | 10 %water | %mud | |
| Rec. 150' | Feet Of Gassy Watery o.c. | 5 %gas | 60 %oil | 35 %water | %mud | |
| Rec. 120' | Feet Of watery o.c. | %gas | 40 %oil | 60 %water | %mud | |
| Rec. 360' | Feet Of muddy Water | %gas | %oil | %water | %mud | |
| Rec. 870' | Feet Of Gas in Pipe | %gas | Trace %oil | 90 %water | 10 %mud | |

BHT 123° °F Gravity ___ °API D@ ___ °F Corrected Gravity ___ °API

RW .2 @ 50 °F Chlorides 54,000 ppm Recovery Chlorides 5,000 ppm System

| | MK-1 | elec. | | | |
|---|---|---|---|---|---|
| (A) Initial Hydrostatic Mud | 1725 | 1726 | PSI | Recorder No. 23428 | T-Started 3:52 p.m. |
| (B) First Initial Flow Pressure | 94 | 81 | PSI | @ (depth) 3391' | T-Open 5:35 P.M. |
| (C) First Final Flow Pressure | 188 | 208 | PSI | Recorder No. 11058 | T-Pulled 8:05 P.M. |
| (D) Initial Shut-in Pressure | 867 | 877 | PSI | @ (depth) 3525' | T-Out 10:15 P.M. |
| (E) Second Initial Flow Pressure | 238 | 207 | PSI | Recorder No. ___ | |
| (F) Second Final Flow Pressure | 305 | 326 | PSI | @ (depth) ___ | |
| (G) Final Shut-in Pressure | 856 | 867 | PSI | Initial Opening 30 | Test X 600 |
| (H) Final Hydrostatic Mud | 1702 | 1666 | PSI | Initial Shut-in 45 | Jars ___ |
| | | | | Final Flow 30 | Safety Joint ___ |
| | | | | Final Shut-in 45 | Straddle ___ |
| | | | | 870' GTP | Circ. Sub X N/C |
| | | | | ___ | Sampler ___ |
| | | | | | Extra Packer ___ |
| | | | | | Elect. Rec. X 150 |
| | | | | | Other ___ |
| | | | | | TOTAL PRICE $ 750 |

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 Shane McBride

3

TRILOBITE TESTING L.L.C.

OPERATOR : Downing Nelson Oil
WELL NAME: Calvert #1-14
LOCATION : 14-13S-20W, Ellis Cty KS
INTERVAL : 3585.00 To 3680.00 ft

DATE 2-20-96
KB 2155.00 ft TICKET NO: 8913 DST #2
GR 2147.00 ft FORMATION: Lansing H-K
TD 3680.00 ft TEST TYPE: CONVENTIONAL

RECORDER DATA

| Mins | | Field | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| PF 30 | Rec. | 24174 | 24174 | 2341 | | |
| SI 45 | Range(Psi ) | 3050.0 | 3050.0 | 4995.0 | 0.0 | 0.0 |
| SF 45 | Clock(hrs) | AK-1 | AK-1 | Alpin | | |
| FS 45 | Depth(ft ) | 3652.0 | 3517.0 | 3589.0 | 0.0 | 0.0 |

TIME DATA----------
PF Fr. 1600 to 1630 hr
IS Fr. 1630 to 1715 hr
SF Fr. 1715 to 1800 hr
FS Fr. 1800 to 1845 hr

| | Field | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| A. Init Hydro | 1735.0 | 1735.0 | 1726.0 | 0.0 | 0.0 |
| B. First Flow | 67.0 | 70.0 | 27.0 | 0.0 | 0.0 |
| B1. Final Flow | 82.0 | 85.0 | 67.0 | 0.0 | 0.0 |
| C. In Shut-in | 941.0 | 945.0 | 944.0 | 0.0 | 0.0 |
| D. Init Flow | 112.0 | 113.0 | 69.0 | 0.0 | 0.0 |
| E. Final Flow | 119.0 | 122.0 | 103.0 | 0.0 | 0.0 |
| F. Fl Shut-in | 933.0 | 933.0 | 935.0 | 0.0 | 0.0 |
| G. Final Hydro | 1719.0 | 1718.0 | 1735.0 | 0.0 | 0.0 |
| Inside/Outside | O | O | I | | |

T STARTED 1340 hr
T ON BOTM 1440 hr
T OPEN 1600 hr
T PULLED 1845 hr
T OUT 2000 hr

RECOVERY
Tot Fluid 175.00 ft of 30.00 ft in DC and 145.00 ft in DP
220.00 ft of Gas in pipe
55.00 ft of Gassy oil cut mud - 10% gas, 12% oil, 3% water, 75% mud
60.00 ft of Heavy oil cut mud - 27% oil, 3% water, 70% mud
60.00 ft of Oil & water cut mud - 10% oil, 30% water, 60% mud

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

BLOW DESCRIPTION
Initial Flow -
.5" blow building to 8"

Initial Shutin -
No blow

Final Flow -
.5" blow building to bottom of bucket in 41 min

Final Shutin -
Very weak surface blow building to .25"

SAMPLES:
SENT TO:

Test Successful: Y

TOOL DATA----------

| | |
|---|---|
| Tool Wt. | 2500.00 lbs |
| Wt Set On Packer | 40000.00 lbs |
| Wt Pulled Loose | 50000.00 lbs |
| Initial Str Wt | 40000.00 lbs |
| Unseated Str Wt | 43000.00 lbs |
| Bot Choke | 0.75 in |
| Hole Size | 7.88 in |
| D Col. ID | 2.25 in |
| D. Pipe ID | 3.80 in |
| D.C. Length | 30.00 ft |
| D.P. Length | 3572.00 ft |

MUD DATA----------

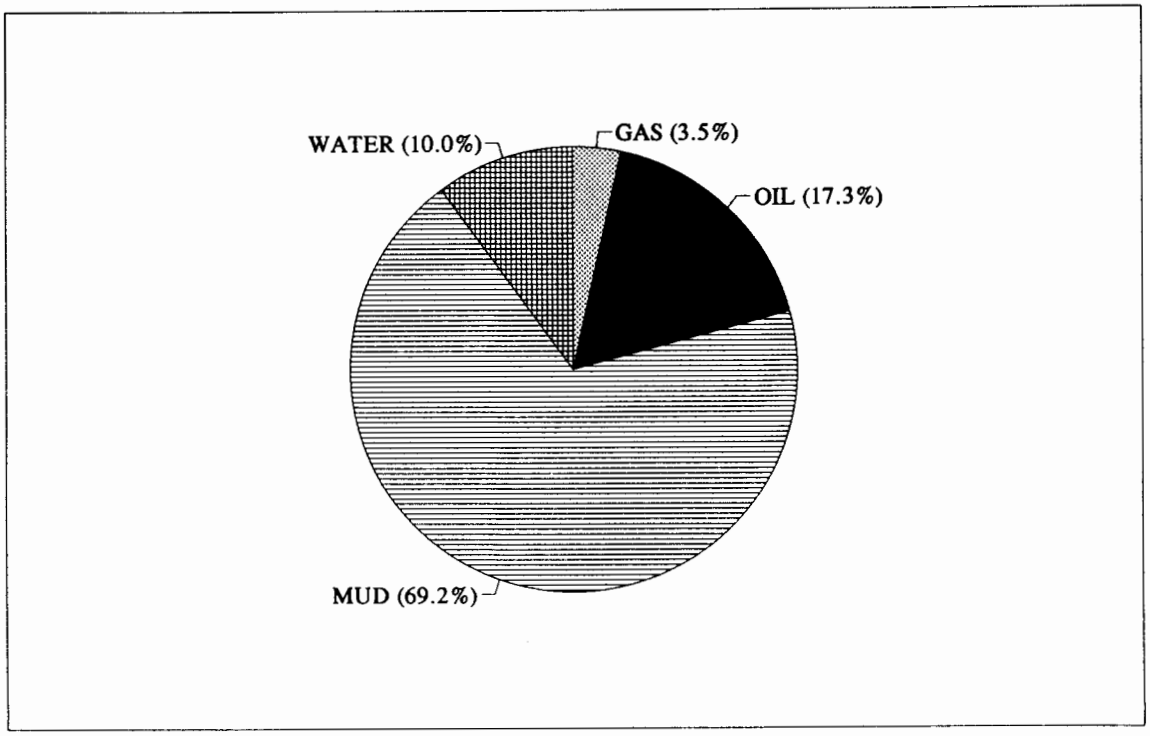
| | |
|---|---|
| Mud Type | Chemical |
| Weight | 9.20 lb/ |
| Vis. | 49.00 S/L |
| W.L. | 10.40 in3 |
| F.C. | 0.00 in |
| Mud Drop | |
| Amt. of fill | 0.00 ft |
| Btm. H. Temp. | 113.00 F |
| Hole Condition | good |
| % Porosity | 0.00 |
| Packer Size | 6.75 in |
| No. of Packers | 2 |
| Cushion Amt. | 0.00 |
| Cushion Type | none |
| Reversed Out | N |
| Tool Chased | N |
| Tester | Paul Simpson |
| Co. Rep. | Ron Nelson |
| Contr. | Discovery |
| Rig # | 1 |
| Unit # | |
| Pump T. | |

## CALCULATED RECOVERY ANALYSIS

DST # 2 TICKET # 8913A

| SAMPLE | # | TOTAL FEET | GAS % | GAS FEET | OIL % | OIL FEET | WATER % | WATER FEET | MUD % | MUD FEET |
|---|---|---|---|---|---|---|---|---|---|---|
| DRL PIPE | 1 | 55 | 10 | 5.5 | 12 | 6.6 | 3 | 1.65 | 75 | 41.25 |
| | 2 | 60 | | 0 | 27 | 16.2 | 3 | 1.8 | 70 | 42 |
| | 3 | 30 | | 0 | 10 | 3 | 30 | 9 | 60 | 18 |
| | 4 | | | 0 | | 0 | | 0 | | 0 |
| | 5 | | | 0 | | 0 | | 0 | | 0 |
| | 6 | | | 0 | | 0 | | 0 | | 0 |
| WGT PIPE | 1 | | | 0 | | 0 | | 0 | | 0 |
| | 2 | | | 0 | | 0 | | 0 | | 0 |
| | 3 | | | 0 | | 0 | | 0 | | 0 |
| | 4 | | | 0 | | 0 | | 0 | | 0 |
| COLLARS | 1 | 30 | | 0 | 10 | 3 | 30 | 9 | 60 | 18 |
| | 2 | | | 0 | | 0 | | 0 | | 0 |
| | 3 | | | 0 | | 0 | | 0 | | 0 |
| | 4 | | | 0 | | 0 | | 0 | | 0 |
| | 5 | | | 0 | | 0 | | 0 | | 0 |
| TOTAL | | 175 | | 5.5 | | 28.8 | | 21.45 | | 119.25 |

| | | | HRS OPE | BBL/DAY |
|---|---|---|---|---|
| BBL OIL= | 0.381546 | * | 1.25 | 7.32568 |
| BBL WATER= | 0.221049 | * | | 4.24414 |
| BBL MUD= | 1.527795 | | | |
| BBL GAS = | 0.07821 | | | |



# TEST HISTORY

8913 Downing Nelson Oil  Calvert #1-14 DST #2

Flag Points

| | t(Min.) | P( PSIg) |
|---|---|---|
| A: | 0.00 | 1725.80 |
| B: | 0.00 | 27.18 |
| C: | 31.00 | 66.46 |
| D: | 44.00 | 944.10 |
| E: | 0.00 | 68.90 |
| F: | 43.00 | 103.31 |
| G: | 46.00 | 934.53 |
| Q: | 0.00 | 1735.12 |

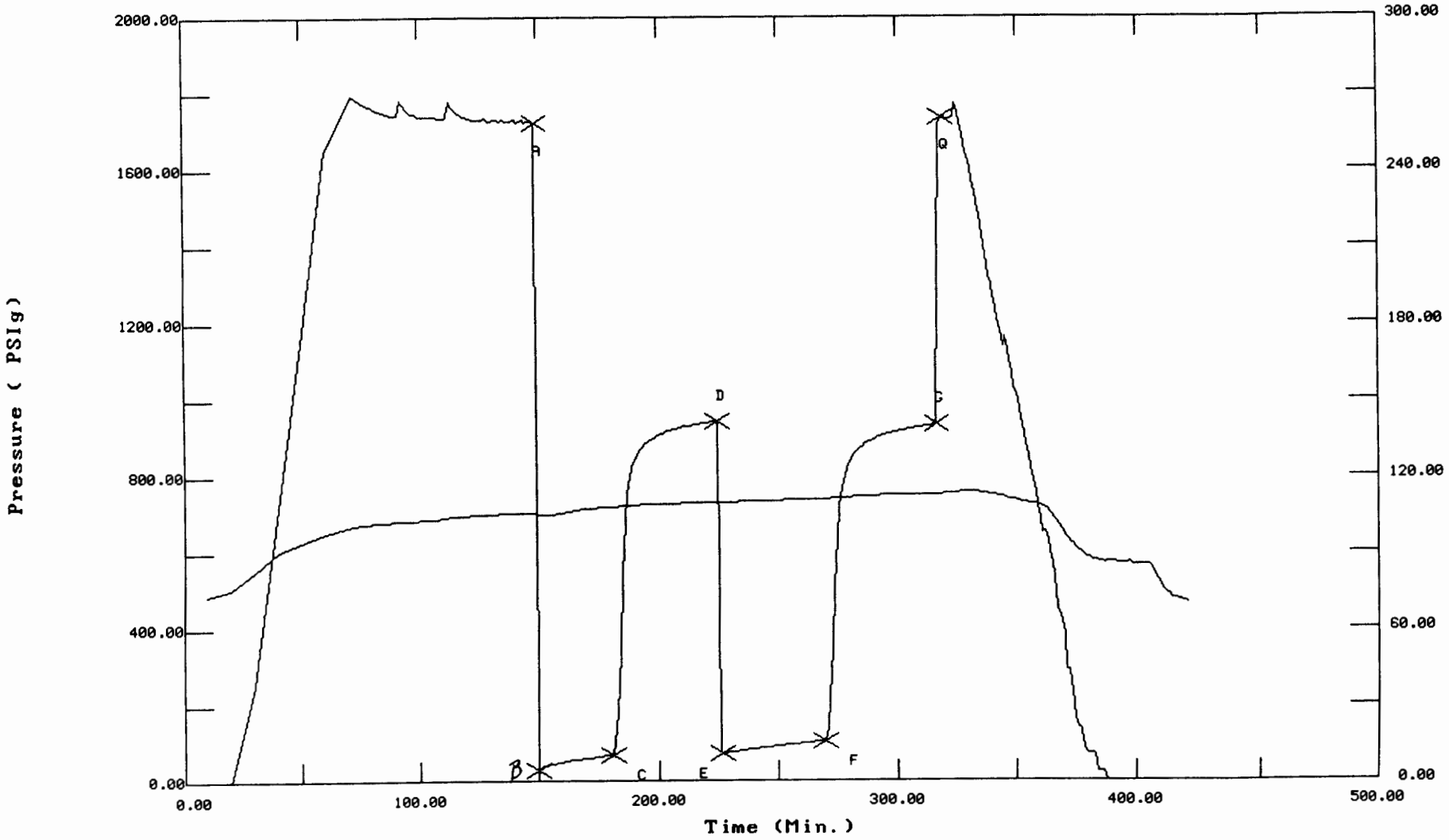
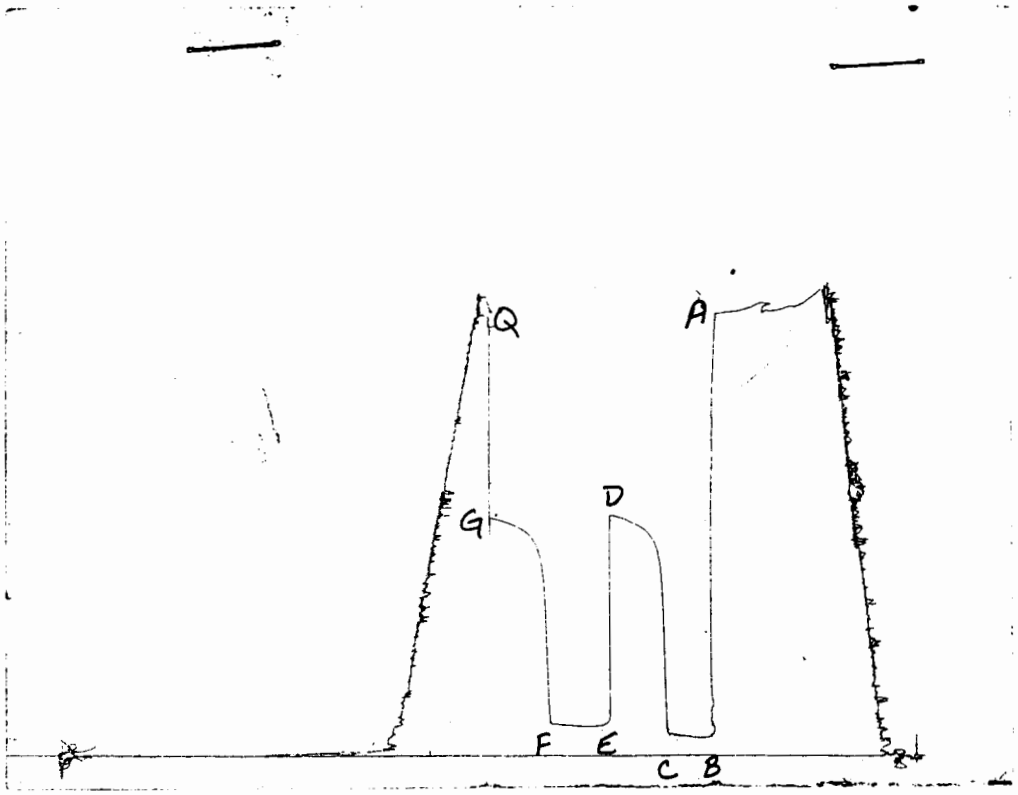


CHART PAGE




This is an actual photograph of recorder chart

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8913 Downing Nelson Oil Calvert #1-14 DST #2

DATE: 02/20/96 TIME: 13:30:12

| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| ****** Initial Hydro. | 149.00 | 1725.8 | 0.0 | 105.80 | | |
| ****** Start Flow 1 | 0.00 | 27.2 | 0.0 | 104.90 | | |
| | 1.00 | 32.9 | 5.7 | 104.90 | | |
| | 2.00 | 37.5 | 10.3 | 104.90 | | |
| | 3.00 | 39.3 | 12.1 | 104.90 | | |
| | 4.00 | 40.2 | 13.0 | 104.90 | | |
| | 5.00 | 41.1 | 13.9 | 104.90 | | |
| | 6.00 | 43.5 | 16.4 | 105.08 | | |
| | 7.00 | 43.8 | 16.6 | 105.08 | | |
| | 8.00 | 45.1 | 17.9 | 105.26 | | |
| | 9.00 | 47.1 | 19.9 | 105.44 | | |
| | 10.00 | 48.3 | 21.1 | 105.62 | | |
| | 11.00 | 49.8 | 22.7 | 105.80 | | |
| | 12.00 | 50.7 | 23.5 | 105.98 | | |
| | 13.00 | 51.6 | 24.4 | 106.16 | | |
| | 14.00 | 53.5 | 26.3 | 106.34 | | |
| | 15.00 | 55.1 | 27.9 | 106.52 | | |
| | 16.00 | 54.8 | 27.6 | 106.70 | | |
| | 17.00 | 55.3 | 28.1 | 106.88 | | |
| | 18.00 | 55.7 | 28.5 | 107.06 | | |
| | 19.00 | 57.5 | 30.3 | 107.24 | | |
| | 20.00 | 57.8 | 30.6 | 107.24 | | |
| | 21.00 | 58.7 | 31.5 | 107.42 | | |
| | 22.00 | 59.7 | 32.5 | 107.42 | | |
| | 23.00 | 60.3 | 33.2 | 107.60 | | |
| | 24.00 | 61.3 | 34.1 | 107.60 | | |
| | 25.00 | 62.0 | 34.8 | 107.78 | | |
| | 26.00 | 62.9 | 35.7 | 107.78 | | |
| | 27.00 | 63.9 | 36.8 | 107.78 | | |
| | 28.00 | 64.9 | 37.7 | 107.96 | | |
| | 29.00 | 65.5 | 38.3 | 107.96 | | |
| | 30.00 | 66.4 | 39.2 | 107.96 | | |
| ****** End Flow 1 | 31.00 | 66.5 | 39.3 | 108.14 | | |
| ****** Start Shutin 1 | 0.00 | 66.5 | 0.0 | 108.14 | 0.0000 | 0.004 |
| | 1.00 | 104.1 | 37.6 | 108.14 | 32.0000 | 0.011 |
| | 2.00 | 179.6 | 113.1 | 108.14 | 16.5000 | 0.032 |
| | 3.00 | 339.6 | 273.1 | 108.32 | 11.3333 | 0.115 |
| | 4.00 | 542.8 | 476.3 | 108.32 | 8.7500 | 0.295 |
| | 5.00 | 680.1 | 613.6 | 108.32 | 7.2000 | 0.462 |
| | 6.00 | 755.3 | 688.8 | 108.50 | 6.1667 | 0.570 |
| | 7.00 | 798.1 | 731.6 | 108.50 | 5.4286 | 0.637 |
| | 8.00 | 824.9 | 758.5 | 108.50 | 4.8750 | 0.680 |
| | 9.00 | 843.0 | 776.6 | 108.68 | 4.4444 | 0.711 |
| | 10.00 | 856.5 | 790.0 | 108.68 | 4.1000 | 0.734 |
| | 11.00 | 866.8 | 800.3 | 108.68 | 3.8182 | 0.751 |
| | 12.00 | 875.0 | 808.6 | 108.86 | 3.5833 | 0.766 |
| | 13.00 | 881.9 | 815.4 | 108.86 | 3.3846 | 0.778 |
| | 14.00 | 887.6 | 821.1 | 108.86 | 3.2143 | 0.788 |
| | 15.00 | 892.7 | 826.3 | 108.86 | 3.0667 | 0.797 |
| | 16.00 | 897.0 | 830.5 | 109.04 | 2.9375 | 0.805 |
| | 17.00 | 901.0 | 834.5 | 109.04 | 2.8235 | 0.812 |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8913 Downing Nelson Oil Calvert #1-14 DST #2

DATE: 02/20/96 TIME: 13:30:12

| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| | 18.00 | 904.4 | 837.9 | 109.04 | 2.7222 | 0.818 |
| | 19.00 | 907.5 | 841.0 | 109.04 | 2.6316 | 0.824 |
| | 20.00 | 910.4 | 844.0 | 109.22 | 2.5500 | 0.829 |
| | 21.00 | 913.0 | 846.6 | 109.22 | 2.4762 | 0.834 |
| | 22.00 | 915.5 | 849.0 | 109.22 | 2.4091 | 0.838 |
| | 23.00 | 917.7 | 851.3 | 109.22 | 2.3478 | 0.842 |
| | 24.00 | 919.8 | 853.4 | 109.40 | 2.2917 | 0.846 |
| | 25.00 | 921.8 | 855.3 | 109.40 | 2.2400 | 0.850 |
| | 26.00 | 923.5 | 857.1 | 109.40 | 2.1923 | 0.853 |
| | 27.00 | 925.4 | 858.9 | 109.40 | 2.1481 | 0.856 |
| | 28.00 | 926.9 | 860.4 | 109.40 | 2.1071 | 0.859 |
| | 29.00 | 928.4 | 861.9 | 109.58 | 2.0690 | 0.862 |
| | 30.00 | 929.7 | 863.3 | 109.58 | 2.0333 | 0.864 |
| | 31.00 | 931.2 | 864.7 | 109.58 | 2.0000 | 0.867 |
| | 32.00 | 932.3 | 865.9 | 109.58 | 1.9688 | 0.869 |
| | 33.00 | 933.5 | 867.1 | 109.58 | 1.9394 | 0.871 |
| | 34.00 | 934.8 | 868.3 | 109.76 | 1.9118 | 0.874 |
| | 35.00 | 935.9 | 869.4 | 109.76 | 1.8857 | 0.876 |
| | 36.00 | 936.9 | 870.4 | 109.76 | 1.8611 | 0.878 |
| | 37.00 | 938.1 | 871.6 | 109.76 | 1.8378 | 0.880 |
| | 38.00 | 939.1 | 872.6 | 109.76 | 1.8158 | 0.882 |
| | 39.00 | 939.9 | 873.4 | 109.94 | 1.7949 | 0.883 |
| | 40.00 | 940.9 | 874.4 | 109.94 | 1.7750 | 0.885 |
| | 41.00 | 941.7 | 875.2 | 109.94 | 1.7561 | 0.887 |
| | 42.00 | 942.4 | 876.0 | 109.94 | 1.7381 | 0.888 |
| | 43.00 | 943.2 | 876.7 | 109.94 | 1.7209 | 0.890 |
| ***** End Shut-in 1 | 44.00 | 944.1 | 877.6 | 109.94 | 1.7045 | 0.891 |
| | | | | | | |
| ***** Start Flow 2 | 0.00 | 68.9 | 0.0 | 109.94 | | |
| | 1.00 | 70.8 | 1.9 | 109.94 | | |
| | 2.00 | 72.0 | 3.1 | 109.94 | | |
| | 3.00 | 73.3 | 4.4 | 109.94 | | |
| | 4.00 | 74.2 | 5.3 | 109.94 | | |
| | 5.00 | 75.0 | 6.1 | 109.94 | | |
| | 6.00 | 76.2 | 7.3 | 109.94 | | |
| | 7.00 | 77.6 | 8.7 | 110.12 | | |
| | 8.00 | 78.5 | 9.7 | 110.12 | | |
| | 9.00 | 79.4 | 10.5 | 110.12 | | |
| | 10.00 | 80.1 | 11.2 | 110.12 | | |
| | 11.00 | 80.6 | 11.7 | 110.12 | | |
| | 12.00 | 81.3 | 12.4 | 110.12 | | |
| | 13.00 | 82.2 | 13.3 | 110.12 | | |
| | 14.00 | 83.0 | 14.1 | 110.12 | | |
| | 15.00 | 83.8 | 14.9 | 110.30 | | |
| | 16.00 | 84.6 | 15.7 | 110.30 | | |
| | 17.00 | 85.3 | 16.4 | 110.30 | | |
| | 18.00 | 86.1 | 17.2 | 110.30 | | |
| | 19.00 | 86.8 | 17.9 | 110.30 | | |
| | 20.00 | 87.6 | 18.7 | 110.30 | | |
| | 21.00 | 88.3 | 19.4 | 110.48 | | |
| | 22.00 | 88.7 | 19.8 | 110.48 | | |
| | 23.00 | 89.5 | 20.6 | 110.48 | | |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8913 Downing Nelson Oil Calvert #1-14 DST #2

DATE: 02/20/96 TIME: 13:30:12

| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| | 24.00 | 90.3 | 21.4 | 110.48 | | |
| | 25.00 | 91.4 | 22.5 | 110.48 | | |
| | 26.00 | 92.2 | 23.3 | 110.66 | | |
| | 27.00 | 93.0 | 24.1 | 110.66 | | |
| | 28.00 | 93.4 | 24.5 | 110.66 | | |
| | 29.00 | 94.1 | 25.2 | 110.66 | | |
| | 30.00 | 94.7 | 25.8 | 110.66 | | |
| | 31.00 | 95.4 | 26.5 | 110.66 | | |
| | 32.00 | 96.2 | 27.3 | 110.84 | | |
| | 33.00 | 96.8 | 27.9 | 110.84 | | |
| | 34.00 | 97.4 | 28.5 | 110.84 | | |
| | 35.00 | 98.2 | 29.3 | 110.84 | | |
| | 36.00 | 98.7 | 29.8 | 110.84 | | |
| | 37.00 | 99.6 | 30.7 | 111.02 | | |
| | 38.00 | 100.2 | 31.3 | 111.02 | | |
| | 39.00 | 100.9 | 32.0 | 111.02 | | |
| | 40.00 | 101.4 | 32.5 | 111.02 | | |
| | 41.00 | 102.1 | 33.2 | 111.20 | | |
| | 42.00 | 102.8 | 33.9 | 111.20 | | |
| ****** End Flow 2 | 43.00 | 103.3 | 34.4 | 111.20 | | |
| ****** Start Shutin 2 | 0.00 | 103.3 | 0.0 | 111.20 | 0.0000 | 0.011 |
| | 1.00 | 137.3 | 34.0 | 111.20 | 75.0000 | 0.019 |
| | 2.00 | 215.1 | 111.8 | 111.20 | 38.0000 | 0.046 |
| | 3.00 | 347.4 | 244.1 | 111.38 | 25.6667 | 0.121 |
| | 4.00 | 509.3 | 406.0 | 111.38 | 19.5000 | 0.259 |
| | 5.00 | 638.7 | 535.4 | 111.38 | 15.8000 | 0.408 |
| | 6.00 | 720.6 | 617.3 | 111.38 | 13.3333 | 0.519 |
| | 7.00 | 770.0 | 666.7 | 111.56 | 11.5714 | 0.593 |
| | 8.00 | 801.3 | 697.9 | 111.56 | 10.2500 | 0.642 |
| | 9.00 | 822.3 | 719.0 | 111.74 | 9.2222 | 0.676 |
| | 10.00 | 837.5 | 734.2 | 111.74 | 8.4000 | 0.701 |
| | 11.00 | 849.0 | 745.7 | 111.74 | 7.7273 | 0.721 |
| | 12.00 | 858.1 | 754.8 | 111.92 | 7.1667 | 0.736 |
| | 13.00 | 865.5 | 762.2 | 111.92 | 6.6923 | 0.749 |
| | 14.00 | 871.9 | 768.6 | 111.92 | 6.2857 | 0.760 |
| | 15.00 | 877.3 | 774.0 | 112.10 | 5.9333 | 0.770 |
| | 16.00 | 882.0 | 778.7 | 112.10 | 5.6250 | 0.778 |
| | 17.00 | 886.1 | 782.8 | 112.10 | 5.3529 | 0.785 |
| | 18.00 | 890.0 | 786.7 | 112.28 | 5.1111 | 0.792 |
| | 19.00 | 893.3 | 790.0 | 112.28 | 4.8947 | 0.798 |
| | 20.00 | 896.4 | 793.1 | 112.28 | 4.7000 | 0.804 |
| | 21.00 | 899.2 | 795.9 | 112.28 | 4.5238 | 0.809 |
| | 22.00 | 901.8 | 798.5 | 112.28 | 4.3636 | 0.813 |
| | 23.00 | 904.2 | 800.9 | 112.46 | 4.2174 | 0.818 |
| | 24.00 | 906.5 | 803.2 | 112.46 | 4.0833 | 0.822 |
| | 25.00 | 908.5 | 805.2 | 112.46 | 3.9600 | 0.825 |
| | 26.00 | 910.6 | 807.3 | 112.46 | 3.8462 | 0.829 |
| | 27.00 | 912.5 | 809.1 | 112.46 | 3.7407 | 0.833 |
| | 28.00 | 914.1 | 810.8 | 112.64 | 3.6429 | 0.836 |
| | 29.00 | 915.8 | 812.5 | 112.64 | 3.5517 | 0.839 |
| | 30.00 | 917.4 | 814.1 | 112.64 | 3.4667 | 0.842 |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8913 Downing Nelson Oil Calvert #1-14 DST #2

DATE: 02/20/96 TIME: 13:30:12

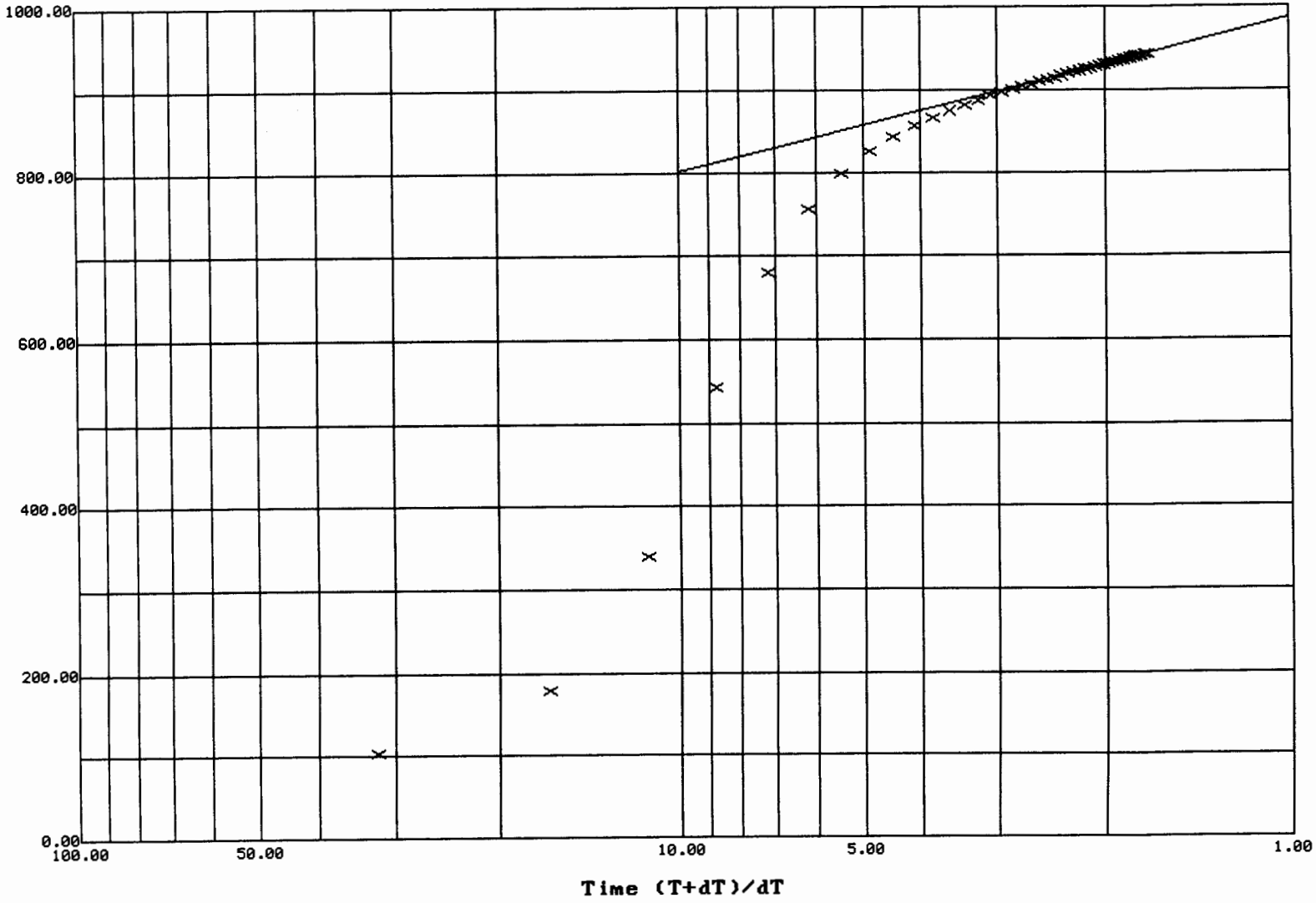
| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| | 31.00 | 918.8 | 815.5 | 112.64 | 3.3871 | 0.844 |
| | 32.00 | 920.3 | 817.0 | 112.64 | 3.3125 | 0.847 |
| | 33.00 | 921.5 | 818.2 | 112.64 | 3.2424 | 0.849 |
| | 34.00 | 922.9 | 819.6 | 112.82 | 3.1765 | 0.852 |
| | 35.00 | 924.0 | 820.7 | 112.82 | 3.1143 | 0.854 |
| | 36.00 | 925.2 | 821.9 | 112.82 | 3.0556 | 0.856 |
| | 37.00 | 926.4 | 823.1 | 112.82 | 3.0000 | 0.858 |
| | 38.00 | 927.4 | 824.1 | 112.82 | 2.9474 | 0.860 |
| | 39.00 | 928.4 | 825.1 | 112.82 | 2.8974 | 0.862 |
| | 40.00 | 929.4 | 826.1 | 112.82 | 2.8500 | 0.864 |
| | 41.00 | 930.3 | 827.0 | 113.00 | 2.8049 | 0.866 |
| | 42.00 | 931.3 | 828.0 | 113.00 | 2.7619 | 0.867 |
| | 43.00 | 932.1 | 828.8 | 113.00 | 2.7209 | 0.869 |
| | 44.00 | 932.9 | 829.6 | 113.00 | 2.6818 | 0.870 |
| | 45.00 | 933.8 | 830.5 | 113.00 | 2.6444 | 0.872 |
| ***** End Shut-in 2 | 46.00 | 934.5 | 831.2 | 113.00 | 2.6087 | 0.873 |
| ***** Start Flow 3 | 0.00 | 1735.1 | 0.0 | 113.00 | | |
| ***** End Flow 3 | 1.00 | 1738.1 | 2.9 | 113.18 | | |
| ***** End Shut-in 3 | 1.00 | 1738.1 | 0.0 | 113.18 | 75.0000 | 3.021 |
| ***** Final Hydro. | 319.00 | 1738.1 | 0.0 | 113.18 | | |

# Horner Plot: shut-in #1

8913 Downing Nelson Oil Calvert #1-14 DST #2

Slope: 186.7864 PSIg/cycle

Ext. Pressure: 987.3360 PSIg

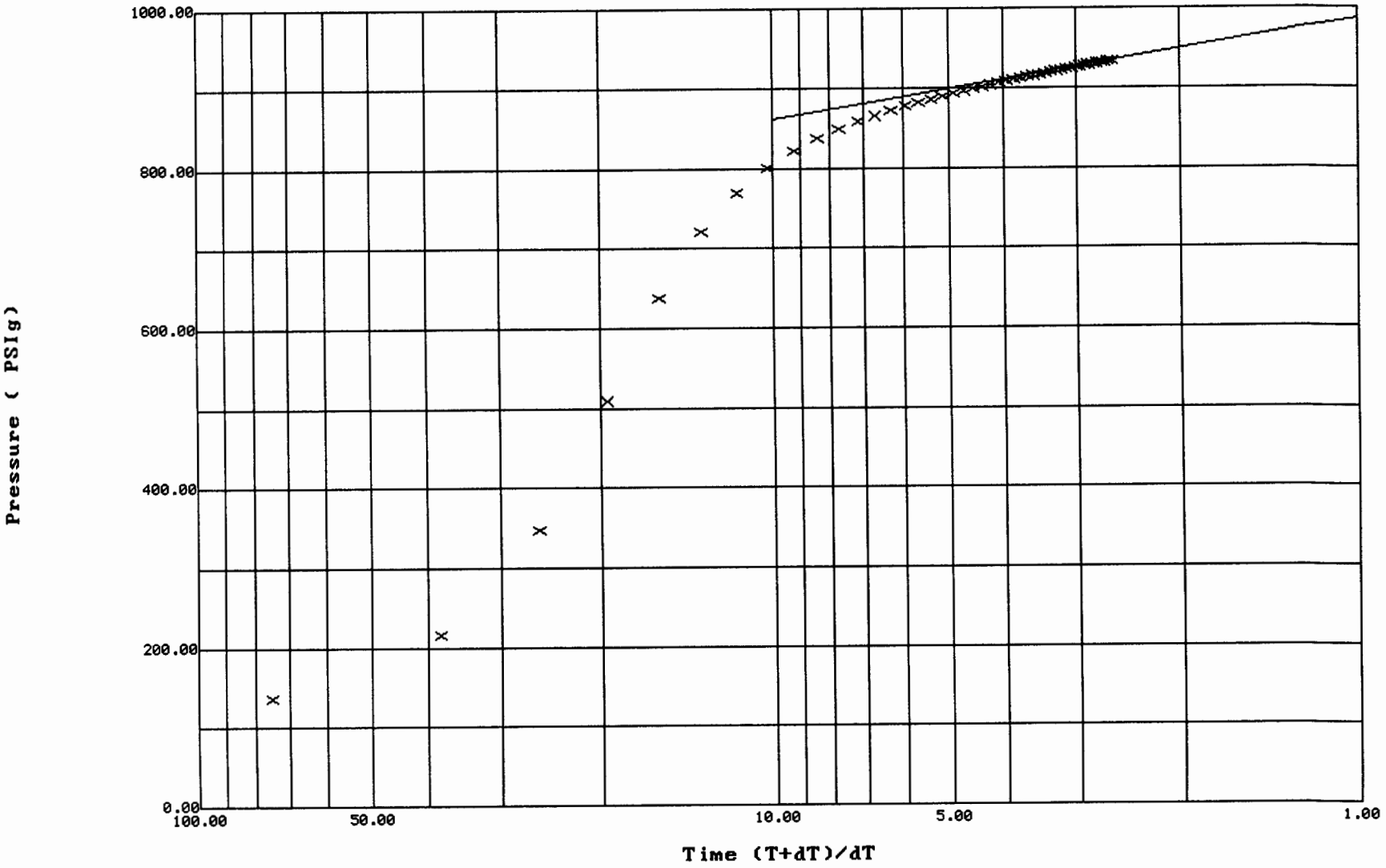


# Horner Plot: shut-in #2

8913 Downing Nelson Oil Calvert #1-14 DST #2

Slope: 125.1571 PSIg/cycle

Ext. Pressure: 986.6382 PSIg



*** TOOL DIAGRAM *** CONVENTIONAL

WELL NAME: Calvert #1-14

LOCATION : 14-13S-20W, Ellis Cty KS

TICKET No. 8913 D.S.T. No. 2 DATE 2-20-96

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

INTERVAL TOOL .....

BOTTOM PACKERS AND ANCHOR ..... 33

TOTAL TOOL ..... 53

DRILL COLLAR ANCHOR IN INTERVAL .....

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands 1 Single Total 62

TOTAL ASSEMBLY ..... 115

D.C. ABOVE TOOLS.Stands Single 1 Total 30

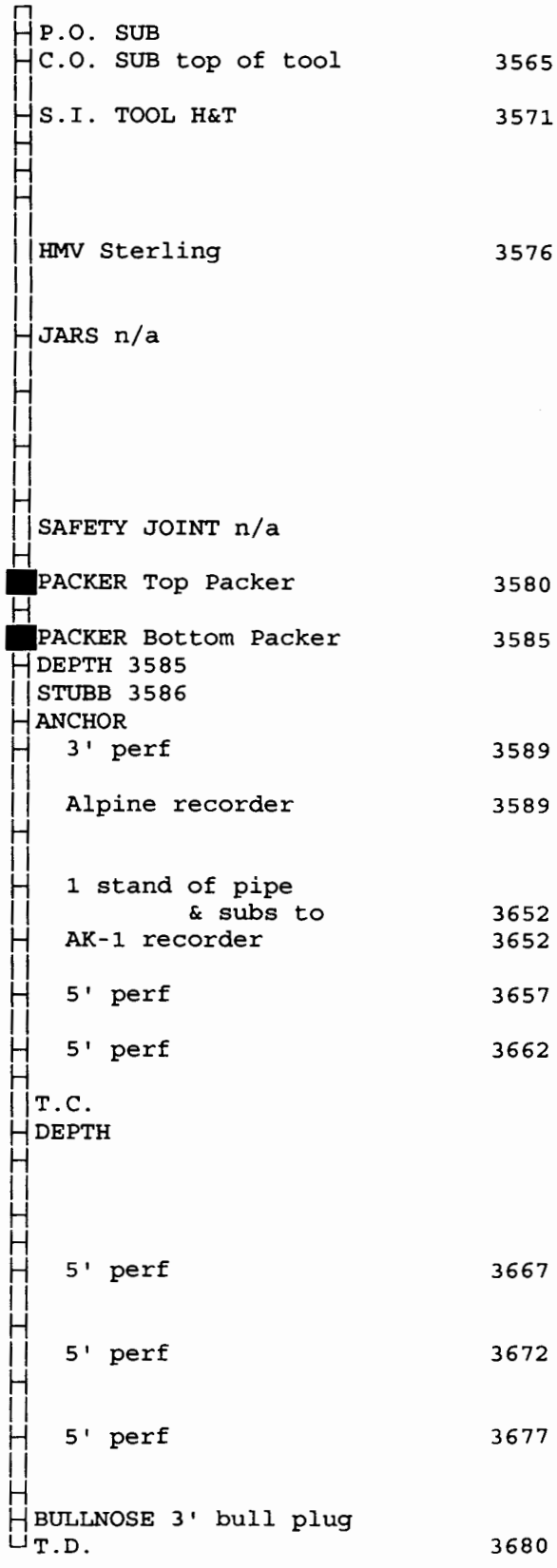
D.P. ABOVE TOOLS.Stands58 Single Total 3542

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 3687

TOTAL DEPTH ..... 3680

TOTAL DRILL PIPE ABOVE K.B. ..... 7

REMARKS:



Well name Calvert

DST # 2

Recorder # 24174

| | | | | |
|---|---|---|---|---|
| 1 | | | | |
| 2 | A | | 1735 | |
| 3 | B | | 70 | |
| 4 | C | | 85 | |
| 5 | D | | 945 | |
| 6 | E | | 113 | |
| 7 | F | | 122 | |
| 8 | G | | 933 | |
| 9 | H | | 1718 | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

Nº 8916 3 A

Well Name & No. Calvert #1-14 Test No. 2 Date 2-20-96

Company Downing Nelson Zone Tested LKC H-K

Address _____ Elevation _____ KB _____ GL

Co. Rep / Geo. Ron Nelson Cont. Discovery Est. Ft. of Pay _____ Por. _____ %

Location: Sec. 14 Twp. 13s Rge. 20w Co. Ellis State Ks

No. of Copies _____ Distribution Sheet (Y, N) _____ Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested 3585-3680 Initial Str Wt./Lbs. 40,000 Unseated Str Wt./Lbs. 43,000

Anchor Length 95 Wt. Set Lbs. 40,000 Wt. Pulled Loose/Lbs. 50,000

Top Packer Depth 3580 Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____

Bottom Packer Depth 3585 Wt. Pipe I.D. — 2.7 Ft. Run _____

Total Depth 3680 Drill Collar — 2.25 Ft. Run 30

Mud Wt. 9.2 LCM _____ Vis. 49 WL 10.4 Drill Pipe Size 4½ XH Ft. Run 3572

Blow Description ½ blow building to 8"

ISI no blow

FF - ½" blow building to bottom of bucket in 41 minutes

SSI - 4 weak surface blow building to ¼"

Recovery — Total Feet 175 Ft. in DC 30 Ft. in WP _____ Ft. in DP 145

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Rec. 220 | Feet Of | gas in pipe | 100 | %gas | %oil | %water | %mud | | |
| Rec. 55 | Feet Of | gassy OCM | 10 | %gas | 12 | %oil | 3 | %water | 75 %mud |
| Rec. 60 | Feet Of | HOCM | %gas | 27 | %oil | 3 | %water | 70 | %mud |
| Rec. 60 | Feet Of | OSW CM | %gas | 10 | %oil | 30 | %water | 60 | %mud |
| Rec. _____ | Feet Of | _____ | %gas | | %oil | | %water | | %mud |

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

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

| | | | | | |
|---|---|---|---|---|---|
| (A) Initial Hydrostatic Mud | 1735 PSI | Recorder No. | 2341 | T-Started | 1340 |
| (B) First Initial Flow Pressure | 67 PSI | @ (depth) | 3589 | T-Open | 1600 |
| (C) First Final Flow Pressure | 87 PSI | Recorder No. | 24174 | T-Pulled | 1845 |
| (D) Initial Shut-in Pressure | 941 PSI | @ (depth) | 3652 | T-Out | 2000 |
| (E) Second Initial Flow Pressure | 112 PSI | Recorder No. | _____ | | |
| (F) Second Final Flow Pressure | 119 PSI | @ (depth) | _____ | | |
| (G) Final Shut-in Pressure | 933 PSI | Initial Opening | 30 | Test | 600 |
| (H) Final Hydrostatic Mud | 1719 PSI | Initial Shut-in | 45 | Jars | _____ |
| | | Final Flow | 45 | Safety Joint | _____ |
| | | Final Shut-in | 45 | Straddle | _____ |
| | | _____ | | Circ. Sub | _____ |
| | | _____ | | Sampler | _____ |
| | | | | Extra Packer | _____ |
| | | | | Elect. Rec. | 150 |
| | | | | Other | _____ |
| | | | | TOTAL PRICE $ | 750 |



Approved By _____

Our Representative Paul Snyder

3

TRILOBITE TESTING L.L.C.

OPERATOR : Downing Nelson Oil  DATE 2-21-96
WELL NAME: Calvert #1-14  KB 2155.00 ft  TICKET NO: 8915  DST #3
LOCATION : 14-13S-20W, Ellis Cty KS  GR 2147.00 ft  FORMATION: Marmaton
INTERVAL : 3729.00 To 3780.00 ft  TD 3780.00 ft  TEST TYPE: CONVENTIONAL

RECORDER DATA

| Mins | | | Field | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|
| PF | 15 | Rec. | 24174 | 24174 | 2341 | | |
| SI | 45 | Range(Psi ) | 3050.0 | 3050.0 | 4995.0 | 0.0 | 0.0 |
| SF | 45 | Clock(hrs) | AK-1 | AK-1 | Alpin | | |
| FS | 45 | Depth(ft ) | 3766.0 | 3766.0 | 3734.0 | 0.0 | 0.0 |

TIME DATA----------
PF Fr. 0737 to 0752 hr
IS Fr. 0752 to 0837 hr
SF Fr. 0837 to 0922 hr
FS Fr. 0922 to 1007 hr

| | Field | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| A. Init Hydro | 1918.0 | 1911.0 | 1911.0 | 0.0 | 0.0 |
| B. First Flow | 186.0 | 178.0 | 175.0 | 0.0 | 0.0 |
| B1. Final Flow | 194.0 | 193.0 | 148.0 | 0.0 | 0.0 |
| C. In Shut-in | 933.0 | 923.0 | 934.0 | 0.0 | 0.0 |
| D. Init Flow | 202.0 | 204.0 | 163.0 | 0.0 | 0.0 |
| E. Final Flow | 301.0 | 308.0 | 323.0 | 0.0 | 0.0 |
| F. Fl Shut-in | 537.0 | 542.0 | 554.0 | 0.0 | 0.0 |
| G. Final Hydro | 1911.0 | 1902.0 | 1876.0 | 0.0 | 0.0 |
| Inside/Outside | O | O | I | | |

T STARTED 0637 hr
T ON BOTM 0735 hr
T OPEN 0737 hr
T PULLED 1007 hr
T OUT 1209 hr

RECOVERY
Tot Fluid 850.00 ft of 30.00 ft in DC and 820.00 ft in DP
560.00 ft of Gas in pipe
550.00 ft of Gassy oil - 25% gas, 75% oil
300.00 ft of Gassy mud cut oil - 25% gas, 55% oil, 25% mud

TOOL DATA----------

| | |
|---|---|
| Tool Wt. | 2200.00 lbs |
| Wt Set On Packer | 20000.00 lbs |
| Wt Pulled Loose | 55000.00 lbs |
| Initial Str Wt | 44000.00 lbs |
| Unseated Str Wt | 47000.00 lbs |
| Bot Choke | 0.75 in |
| Hole Size | 7.88 in |
| D Col. ID | 2.25 in |
| D. Pipe ID | 3.80 in |
| D.C. Length | 30.00 ft |
| D.P. Length | 3695.00 ft |

SALINITY 0.00 P.P.M. A.P.I. Gravity 38.00

MUD DATA----------

| | |
|---|---|
| Mud Type | Chemical |
| Weight | 9.20 lb/ |
| Vis. | 49.00 S/L |
| W.L. | 10.40 in3 |
| F.C. | 0.00 in |
| Mud Drop | |
| Amt. of fill | 0.00 ft |
| Btm. H. Temp. | 127.00 F |
| Hole Condition | good |
| % Porosity | 0.00 |
| Packer Size | 6.75 in |
| No. of Packers | 2 |
| Cushion Amt. | 0.00 |
| Cushion Type | none |
| Reversed Out | N |
| Tool Chased | N |
| Tester | Paul Simpson |
| Co. Rep. | Ron Nelson |
| Contr. | Discovery |
| Rig # | 1 |
| Unit # | |
| Pump T. | |

BLOW DESCRIPTION
Initial Flow -
1" blow building to bottom of bucket
in 5 minutes

Initial Shutin -
Surface blow building to 6.5"

Final Flow -
1" blow building to bottom of bucket
in 6 minutes

Final Shutin -
Very weak surface blow
2.5"

SAMPLES:
SENT TO:

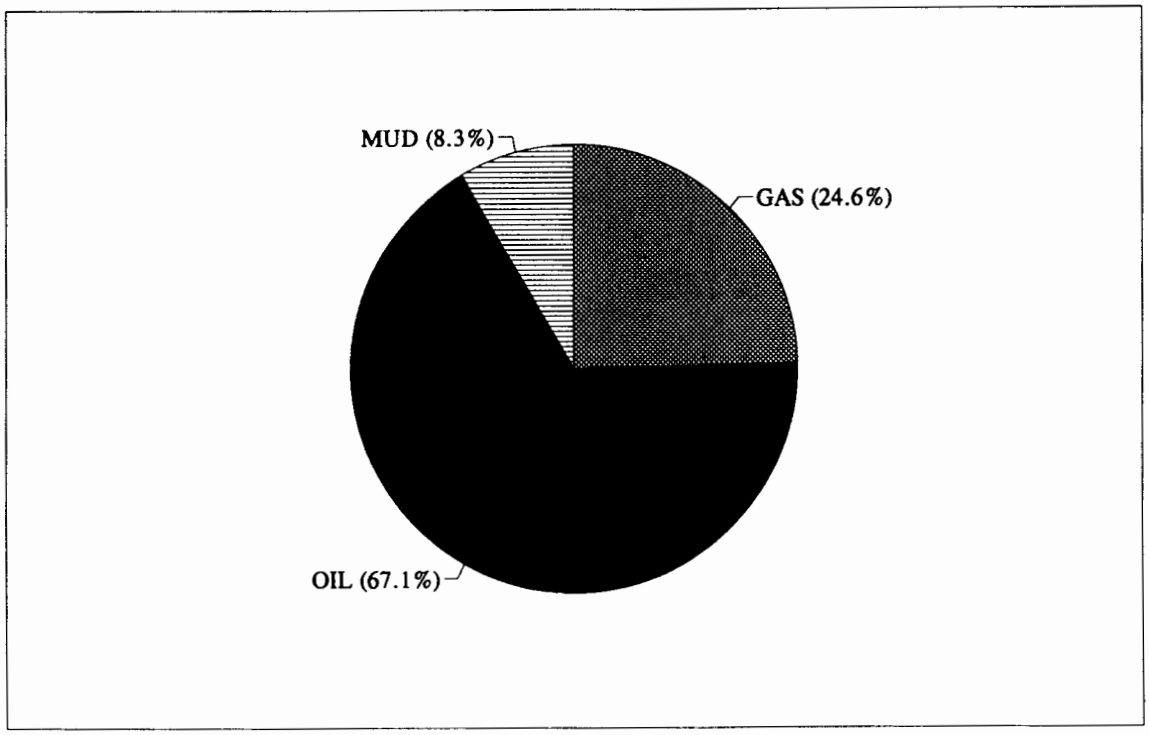
Test Successful: Y

## CALCULATED RECOVERY ANALYSIS

DST # 3 TICKET # 8915

| SAMPLE | # | TOTAL FEET | GAS % | GAS FEET | OIL % | OIL FEET | WATER % | WATER FEET | MUD % | MUD FEET |
|---|---|---|---|---|---|---|---|---|---|---|
| DRL PIPE | 1 | 550 | 25 | 137.5 | 75 | 412.5 | | 0 | | 0 |
| | 2 | 270 | 25 | 67.5 | 55 | 148.5 | | 0 | 25 | 67.5 |
| | 3 | | | 0 | | 0 | | 0 | | 0 |
| | 4 | | | 0 | | 0 | | 0 | | 0 |
| | 5 | | | 0 | | 0 | | 0 | | 0 |
| | 6 | | | 0 | | 0 | | 0 | | 0 |
| WGT PIPE | 1 | | | 0 | | 0 | | 0 | | 0 |
| | 2 | | | 0 | | 0 | | 0 | | 0 |
| | 3 | | | 0 | | 0 | | 0 | | 0 |
| | 4 | | | 0 | | 0 | | 0 | | 0 |
| COLLARS | 1 | 30 | 25 | 7.5 | 55 | 16.5 | | 0 | 25 | 7.5 |
| | 2 | | | 0 | | 0 | | 0 | | 0 |
| | 3 | | | 0 | | 0 | | 0 | | 0 |
| | 4 | | | 0 | | 0 | | 0 | | 0 |
| | 5 | | | 0 | | 0 | | 0 | | 0 |
| TOTAL | | 850 | | 212.5 | | 577.5 | | 0 | | 75 |

| | | | HRS OPE | BBL/DAY |
|---|---|---|---|---|
| BBL OIL= | 8.058105 | * | 1 | 193.395 |
| BBL WATER= | 0 | * | | 0 |
| BBL MUD= | 0.996525 | | | |
| BBL GAS = | 2.951775 | | | |



# TEST HISTORY

8914 Downing Nelson Oil Calvert #1-14 DST #3

Flag Points

| | t(Min.) | P( PSIg) |
|---|---|---|
| A: | 0.00 | 1911.45 |
| B: | 0.00 | 175.06 |
| C: | 8.00 | 148.04 |
| D: | 52.00 | 934.02 |
| E: | 0.00 | 163.32 |
| F: | 44.00 | 322.95 |
| G: | 45.00 | 554.25 |
| Q: | 0.00 | 1875.78 |

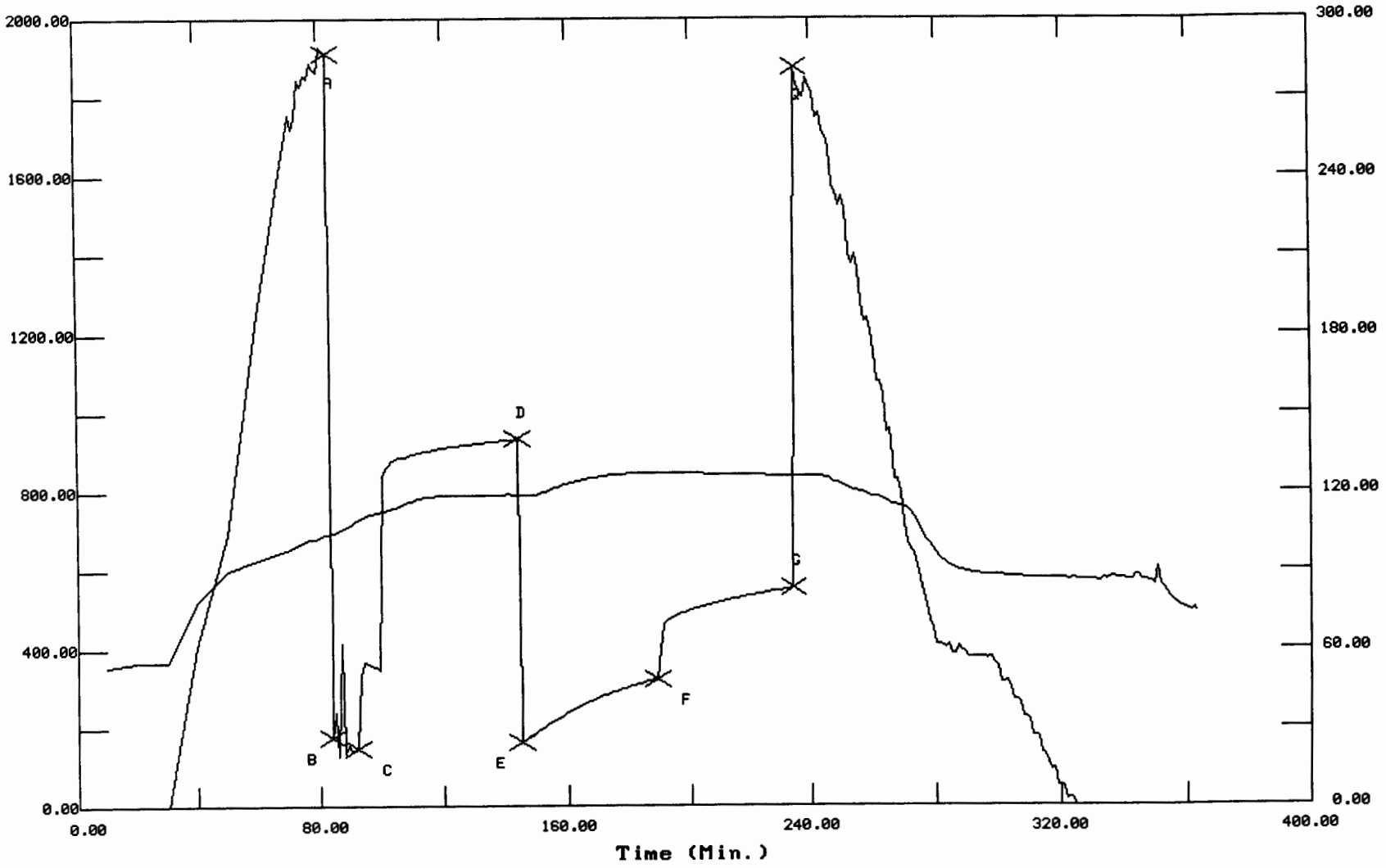
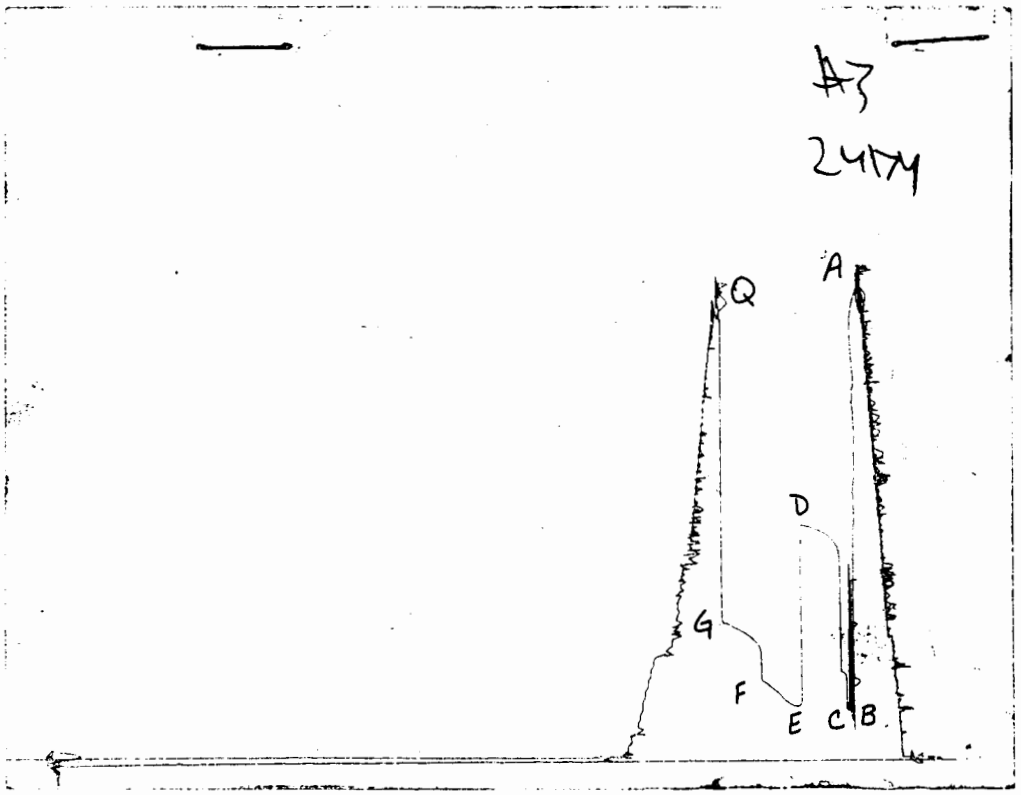


CHART PAGE




This is an actual photograph of recorder chart

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8914 Downing Nelson Oil Calvert #1-14 DST #3

DATE: 02/21/96 TIME: 06:13:24

| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| ****** Initial Hydro. | 83.00 | 1911.4 | 0.0 | 103.82 | | |
| ****** Start Flow 1 | 0.00 | 175.1 | 0.0 | 104.36 | | |
| | 1.00 | 239.3 | 64.2 | 104.36 | | |
| | 2.00 | 125.4 | -49.7 | 104.72 | | |
| | 3.00 | 416.1 | 241.0 | 105.26 | | |
| | 4.00 | 135.7 | -39.4 | 105.98 | | |
| | 5.00 | 154.3 | -20.8 | 106.70 | | |
| | 6.00 | 141.1 | -34.0 | 107.42 | | |
| | 7.00 | 141.4 | -33.7 | 108.32 | | |
| ****** End Flow 1 | 8.00 | 148.0 | -27.0 | 109.04 | | |
| ****** Start Shutin 1 | 0.00 | 148.0 | 0.0 | 109.04 | 0.0000 | 0.022 |
| | 1.00 | 332.3 | 184.3 | 109.76 | 9.0000 | 0.110 |
| | 2.00 | 365.8 | 217.8 | 110.48 | 5.0000 | 0.134 |
| | 3.00 | 364.0 | 215.9 | 111.02 | 3.6667 | 0.132 |
| | 4.00 | 358.4 | 210.3 | 111.38 | 3.0000 | 0.128 |
| | 5.00 | 352.9 | 204.9 | 111.74 | 2.6000 | 0.125 |
| | 6.00 | 354.9 | 206.9 | 112.10 | 2.3333 | 0.126 |
| | 7.00 | 346.4 | 198.3 | 112.28 | 2.1429 | 0.120 |
| | 8.00 | 842.6 | 694.6 | 112.82 | 2.0000 | 0.710 |
| | 9.00 | 860.2 | 712.1 | 113.00 | 1.8889 | 0.740 |
| | 10.00 | 868.6 | 720.5 | 113.18 | 1.8000 | 0.754 |
| | 11.00 | 874.5 | 726.5 | 113.54 | 1.7273 | 0.765 |
| | 12.00 | 879.5 | 731.4 | 113.72 | 1.6667 | 0.773 |
| | 13.00 | 883.6 | 735.5 | 114.08 | 1.6154 | 0.781 |
| | 14.00 | 887.1 | 739.1 | 114.44 | 1.5714 | 0.787 |
| | 15.00 | 885.8 | 737.8 | 114.98 | 1.5333 | 0.785 |
| | 16.00 | 888.7 | 740.7 | 115.52 | 1.5000 | 0.790 |
| | 17.00 | 891.2 | 743.2 | 116.06 | 1.4706 | 0.794 |
| | 18.00 | 893.8 | 745.8 | 116.42 | 1.4444 | 0.799 |
| | 19.00 | 896.0 | 748.0 | 116.78 | 1.4211 | 0.803 |
| | 20.00 | 898.2 | 750.1 | 117.32 | 1.4000 | 0.807 |
| | 21.00 | 900.2 | 752.2 | 117.50 | 1.3810 | 0.810 |
| | 22.00 | 901.9 | 753.8 | 117.86 | 1.3636 | 0.813 |
| | 23.00 | 903.6 | 755.6 | 118.04 | 1.3478 | 0.817 |
| | 24.00 | 905.3 | 757.3 | 118.22 | 1.3333 | 0.820 |
| | 25.00 | 906.8 | 758.8 | 118.40 | 1.3200 | 0.822 |
| | 26.00 | 908.3 | 760.3 | 118.58 | 1.3077 | 0.825 |
| | 27.00 | 909.8 | 761.7 | 118.58 | 1.2963 | 0.828 |
| | 28.00 | 911.1 | 763.1 | 118.76 | 1.2857 | 0.830 |
| | 29.00 | 912.5 | 764.5 | 118.76 | 1.2759 | 0.833 |
| | 30.00 | 913.7 | 765.7 | 118.76 | 1.2667 | 0.835 |
| | 31.00 | 914.8 | 766.8 | 118.76 | 1.2581 | 0.837 |
| | 32.00 | 916.0 | 767.9 | 118.94 | 1.2500 | 0.839 |
| | 33.00 | 917.2 | 769.1 | 118.94 | 1.2424 | 0.841 |
| | 34.00 | 918.2 | 770.2 | 118.94 | 1.2353 | 0.843 |
| | 35.00 | 919.3 | 771.3 | 118.94 | 1.2286 | 0.845 |
| | 36.00 | 920.3 | 772.3 | 118.94 | 1.2222 | 0.847 |
| | 37.00 | 921.4 | 773.3 | 118.94 | 1.2162 | 0.849 |
| | 38.00 | 922.4 | 774.3 | 118.94 | 1.2105 | 0.851 |
| | 39.00 | 923.4 | 775.3 | 118.94 | 1.2051 | 0.853 |
| | 40.00 | 924.2 | 776.2 | 118.94 | 1.2000 | 0.854 |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8914 Downing Nelson Oil Calvert #1-14 DST #3

DATE: 02/21/96 TIME: 06:13:24

| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| | 41.00 | 925.1 | 777.1 | 118.94 | 1.1951 | 0.856 |
| | 42.00 | 926.1 | 778.1 | 118.94 | 1.1905 | 0.858 |
| | 43.00 | 926.9 | 778.9 | 118.94 | 1.1860 | 0.859 |
| | 44.00 | 927.8 | 779.8 | 118.94 | 1.1818 | 0.861 |
| | 45.00 | 928.6 | 780.5 | 118.94 | 1.1778 | 0.862 |
| | 46.00 | 929.4 | 781.4 | 118.94 | 1.1739 | 0.864 |
| | 47.00 | 930.2 | 782.2 | 118.94 | 1.1702 | 0.865 |
| | 48.00 | 931.0 | 783.0 | 118.94 | 1.1667 | 0.867 |
| | 49.00 | 931.8 | 783.7 | 119.12 | 1.1633 | 0.868 |
| | 50.00 | 932.6 | 784.6 | 118.94 | 1.1600 | 0.870 |
| | 51.00 | 933.4 | 785.3 | 118.76 | 1.1569 | 0.871 |
| ****** End Shut-in 1 | 52.00 | 934.0 | 786.0 | 118.94 | 1.1538 | 0.872 |
| | | | | | | |
| ****** Start Flow 2 | 0.00 | 163.3 | 0.0 | 118.94 | | |
| | 1.00 | 167.7 | 4.4 | 118.76 | | |
| | 2.00 | 173.1 | 9.8 | 118.76 | | |
| | 3.00 | 178.8 | 15.4 | 118.76 | | |
| | 4.00 | 183.6 | 20.3 | 118.76 | | |
| | 5.00 | 188.7 | 25.4 | 118.94 | | |
| | 6.00 | 194.2 | 30.9 | 119.30 | | |
| | 7.00 | 198.8 | 35.5 | 119.66 | | |
| | 8.00 | 204.8 | 41.5 | 120.20 | | |
| | 9.00 | 209.5 | 46.2 | 120.56 | | |
| | 10.00 | 214.3 | 51.0 | 120.92 | | |
| | 11.00 | 219.3 | 56.0 | 121.46 | | |
| | 12.00 | 224.2 | 60.9 | 121.82 | | |
| | 13.00 | 228.4 | 65.1 | 122.18 | | |
| | 14.00 | 233.6 | 70.2 | 122.72 | | |
| | 15.00 | 237.4 | 74.1 | 123.08 | | |
| | 16.00 | 241.8 | 78.5 | 123.44 | | |
| | 17.00 | 245.8 | 82.5 | 123.80 | | |
| | 18.00 | 249.4 | 86.1 | 123.98 | | |
| | 19.00 | 253.6 | 90.3 | 124.34 | | |
| | 20.00 | 257.2 | 93.9 | 124.52 | | |
| | 21.00 | 261.1 | 97.8 | 124.88 | | |
| | 22.00 | 265.0 | 101.7 | 125.06 | | |
| | 23.00 | 268.3 | 105.0 | 125.24 | | |
| | 24.00 | 271.3 | 108.0 | 125.42 | | |
| | 25.00 | 274.9 | 111.6 | 125.60 | | |
| | 26.00 | 278.4 | 115.1 | 125.78 | | |
| | 27.00 | 281.1 | 117.8 | 125.96 | | |
| | 28.00 | 284.2 | 120.9 | 126.14 | | |
| | 29.00 | 287.0 | 123.7 | 126.32 | | |
| | 30.00 | 290.0 | 126.7 | 126.32 | | |
| | 31.00 | 292.7 | 129.4 | 126.50 | | |
| | 32.00 | 295.8 | 132.5 | 126.50 | | |
| | 33.00 | 298.4 | 135.0 | 126.68 | | |
| | 34.00 | 300.6 | 137.3 | 126.68 | | |
| | 35.00 | 303.1 | 139.7 | 126.86 | | |
| | 36.00 | 305.6 | 142.3 | 126.86 | | |
| | 37.00 | 308.0 | 144.7 | 126.86 | | |
| | 38.00 | 310.4 | 147.0 | 127.04 | | |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING
TEST: 8914 Downing Nelson Oil Calvert #1-14 DST #3
DATE: 02/21/96 TIME: 06:13:24

| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| | 39.00 | 312.7 | 149.4 | 127.04 | | |
| | 40.00 | 314.9 | 151.6 | 127.04 | | |
| | 41.00 | 317.2 | 153.9 | 127.04 | | |
| | 42.00 | 319.3 | 155.9 | 127.04 | | |
| | 43.00 | 321.3 | 158.0 | 127.04 | | |
| ****** End Flow 2 | 44.00 | 322.9 | 159.6 | 127.04 | | |
| ****** Start Shutin 2 | 0.00 | 322.9 | 0.0 | 127.04 | 0.0000 | 0.104 |
| | 1.00 | 398.8 | 75.9 | 127.04 | 53.0000 | 0.159 |
| | 2.00 | 464.0 | 141.1 | 127.04 | 27.0000 | 0.215 |
| | 3.00 | 471.2 | 148.2 | 127.04 | 18.3333 | 0.222 |
| | 4.00 | 475.9 | 152.9 | 126.86 | 14.0000 | 0.226 |
| | 5.00 | 479.8 | 156.9 | 127.04 | 11.4000 | 0.230 |
| | 6.00 | 483.2 | 160.3 | 126.86 | 9.6667 | 0.234 |
| | 7.00 | 486.4 | 163.5 | 126.86 | 8.4286 | 0.237 |
| | 8.00 | 489.5 | 166.5 | 126.86 | 7.5000 | 0.240 |
| | 9.00 | 492.4 | 169.5 | 126.86 | 6.7778 | 0.242 |
| | 10.00 | 495.1 | 172.1 | 126.86 | 6.2000 | 0.245 |
| | 11.00 | 497.6 | 174.7 | 126.86 | 5.7273 | 0.248 |
| | 12.00 | 500.1 | 177.2 | 126.86 | 5.3333 | 0.250 |
| | 13.00 | 502.4 | 179.4 | 126.86 | 5.0000 | 0.252 |
| | 14.00 | 504.7 | 181.8 | 126.86 | 4.7143 | 0.255 |
| | 15.00 | 506.8 | 183.9 | 126.86 | 4.4667 | 0.257 |
| | 16.00 | 509.0 | 186.1 | 126.68 | 4.2500 | 0.259 |
| | 17.00 | 511.0 | 188.1 | 126.68 | 4.0588 | 0.261 |
| | 18.00 | 513.0 | 190.1 | 126.68 | 3.8889 | 0.263 |
| | 19.00 | 515.0 | 192.0 | 126.68 | 3.7368 | 0.265 |
| | 20.00 | 516.8 | 193.9 | 126.68 | 3.6000 | 0.267 |
| | 21.00 | 518.8 | 195.9 | 126.68 | 3.4762 | 0.269 |
| | 22.00 | 520.6 | 197.6 | 126.68 | 3.3636 | 0.271 |
| | 23.00 | 522.3 | 199.3 | 126.50 | 3.2609 | 0.273 |
| | 24.00 | 524.0 | 201.0 | 126.50 | 3.1667 | 0.275 |
| | 25.00 | 525.7 | 202.8 | 126.50 | 3.0800 | 0.276 |
| | 26.00 | 527.4 | 204.4 | 126.50 | 3.0000 | 0.278 |
| | 27.00 | 529.0 | 206.0 | 126.50 | 2.9259 | 0.280 |
| | 28.00 | 530.5 | 207.6 | 126.50 | 2.8571 | 0.281 |
| | 29.00 | 532.1 | 209.1 | 126.50 | 2.7931 | 0.283 |
| | 30.00 | 533.7 | 210.7 | 126.32 | 2.7333 | 0.285 |
| | 31.00 | 535.1 | 212.2 | 126.32 | 2.6774 | 0.286 |
| | 32.00 | 536.6 | 213.7 | 126.32 | 2.6250 | 0.288 |
| | 33.00 | 538.1 | 215.2 | 126.32 | 2.5758 | 0.290 |
| | 34.00 | 539.5 | 216.5 | 126.32 | 2.5294 | 0.291 |
| | 35.00 | 541.1 | 218.1 | 126.32 | 2.4857 | 0.293 |
| | 36.00 | 542.4 | 219.5 | 126.14 | 2.4444 | 0.294 |
| | 37.00 | 543.8 | 220.8 | 126.14 | 2.4054 | 0.296 |
| | 38.00 | 545.3 | 222.3 | 126.14 | 2.3684 | 0.297 |
| | 39.00 | 546.5 | 223.6 | 126.14 | 2.3333 | 0.299 |
| | 40.00 | 547.9 | 224.9 | 126.14 | 2.3000 | 0.300 |
| | 41.00 | 549.1 | 226.2 | 126.14 | 2.2683 | 0.302 |
| | 42.00 | 550.6 | 227.6 | 125.96 | 2.2381 | 0.303 |
| | 43.00 | 551.8 | 228.9 | 125.96 | 2.2093 | 0.305 |
| | 44.00 | 553.0 | 230.0 | 125.96 | 2.1818 | 0.306 |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8914 Downing Nelson Oil Calvert #1-14 DST #3

DATE: 02/21/96 TIME: 06:13:24

| | | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|---|
| ****** | End Shut-in 2 | 45.00 | 554.3 | 231.3 | 125.96 | 2.1556 | 0.307 |
| ****** | Final Hydro. | 235.00 | 1875.8 | 0.0 | 125.96 | | |

*** TOOL DIAGRAM *** CONVENTIONAL

WELL NAME: Calvert #1-14

LOCATION : 14-13S-20W, Ellis Cty KS

TICKET No. 8915 D.S.T. No. 3 DATE 2-21-96

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

INTERVAL TOOL .....

BOTTOM PACKERS AND ANCHOR ..... 20

TOTAL TOOL ..... 40

DRILL COLLAR ANCHOR IN INTERVAL .....

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands Single 1 Total 31

TOTAL ASSEMBLY ..... 71

D.C. ABOVE TOOLS.Stands Single 1 Total 30

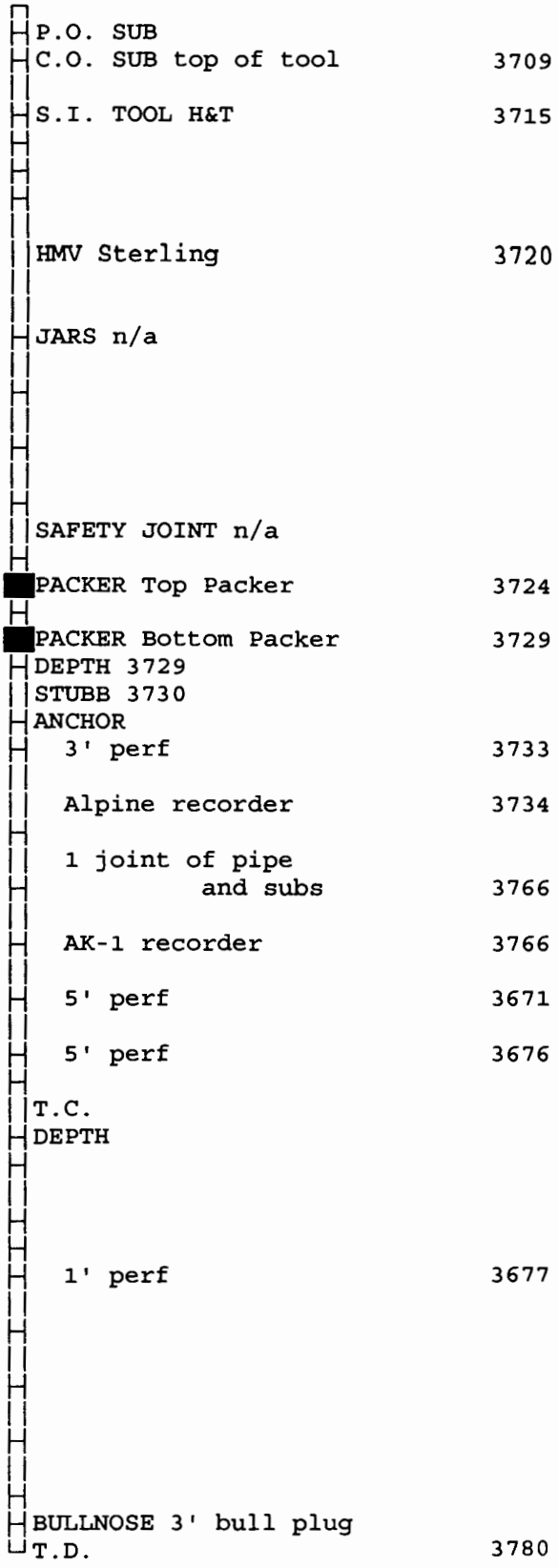
D.P. ABOVE TOOLS.Stands60 Single 1 Total 3695

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 3796

TOTAL DEPTH ..... 3780

TOTAL DRILL PIPE ABOVE K.B. ..... 16

REMARKS:
*Had severe plugging action on initial flow.



Well name ~~Calvert~~ 3

DST # 3

Recorder # 24174

| | | | | |
|---|---|---|---|---|
| | | | | |
| | A | | 1911 | |
| | B | | 178 | |
| | C | | 193 | |
| | D | | 923 | |
| | E | | 204 | |
| | F | | 308 | |
| | G | | 542 | |
| | H | | 1902 | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

Nº 8915

Well Name & No. Calvert #1-14 Test No. 3 Date 2-21-96

Company Downing Nelson Zone Tested Marmaton

Address _____ Elevation 2155 KB 2147 GL

Co. Rep / Geo. Ron Nelson Cont. Discovery #1 Est. Ft. of Pay ____ Por. ____ %

Location: Sec. 14 Twp. 13s Rge. 20w Co. Ellis State Ks

No. of Copies ____ Distribution Sheet (Y, N) ____ Turnkey (Y, N) ____ Evaluation (Y, N) ____

Interval Tested 3729-3780 Initial Str Wt./Lbs. 42,000 Unseated Str Wt./Lbs. 43,000

Anchor Length 51 Wt. Set Lbs. 20,000 Wt. Pulled Loose/Lbs. 55,000

Top Packer Depth 3724 Hole Size — 7 7/8" ____ Rubber Size — 6 3/4" ____

Bottom Packer Depth 3729 Wt. Pipe I.D. — 2.7 Ft. Run ____

Total Depth 3780 Drill Collar — 2.25 Ft. Run 30

Mud Wt. 9.2 LCM ____ Vis. 49 WL 10.4 Drill Pipe Size 4½ XH Ft. Run 3695

Blow Description 1" blow building to bottom of bucket in 5 minutes ISI - blow built to 6½"
FF - 1" blow building to bottom of bucket in 6 minutes
(had plugging on initial flow

Recovery — Total Feet 850 Ft. in DC 30 Ft. in WP ____ Ft. in DP 820

| | | | | | | |
|---|---|---|---|---|---|---|
| Rec. 560 | Feet Of gas in pipe | %gas | %oil | %water | %mud |
| Rec. 550 | Feet Of gassy oil | 25 %gas | 75 %oil | %water | %mud |
| Rec. 300 | Feet Of gassy MCO | 25 %gas | 55 %oil | %water | 25 %mud |
| Rec. ____ | Feet Of ____ | %gas | %oil | %water | %mud |
| Rec. ____ | Feet Of ____ | %gas | %oil | %water | %mud |

BHT 127 °F Gravity 40 °API D@ 80 °F Corrected Gravity 38 °API

RW ____ @ ____ °F Chlorides ____ ppm Recovery Chlorides ____ ppm System

| | | | | | |
|---|---|---|---|---|---|
| (A) Initial Hydrostatic Mud | 1918 PSI | Recorder No. | 2341 | T-Started | 0637 |
| (B) First Initial Flow Pressure | 186 PSI | @ (depth) | 3734 | T-Open | 0737 |
| (C) First Final Flow Pressure | 194 PSI | Recorder No. | 24174 | T-Pulled | 1007 |
| (D) Initial Shut-in Pressure | 933 PSI | @ (depth) | 3766 | T-Out | 1209 |
| (E) Second Initial Flow Pressure | 202 PSI | Recorder No. | ____ | | |
| (F) Second Final Flow Pressure | 301 PSI | @ (depth) | ____ | | |
| (G) Final Shut-in Pressure | 537 PSI | Initial Opening | 15 | Test | 600 |
| (H) Final Hydrostatic Mud | 1911 PSI | Initial Shut-in | 45 | Jars | ____ |
| | | Final Flow | 45 | Safety Joint | ____ |
| | | Final Shut-in | 45 | Straddle | ____ |
| | | ____ | | Circ. Sub | ____ |
| | | ____ | | Sampler | ____ |
| | | | | Extra Packer | ____ |
| | | | | Elect. Rec. | X 150 |
| | | | | Other | ____ |
| | | | | TOTAL PRICE $ | 750 |



Approved By ____

Our Representative Paul Simpson

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