

FLOPETROL

DISTRICT: NUD

BASE : STAVANGER

REPORT N°: ELS-81-03E

5

HIGH ACCURACY PRESSURE TEMPERATURE MEASUREMENTS

Company: ESSO

Country: NORWAY

Field: SLEIPNER

Well: 15/8-1

Zone:

Date: 22nd December -
26th December 1981

FLOPETROL

DISTRICT: NUD
BASE : STAVANGER
REPORT N°: ELS-81-03E

HIGH ACCURACY PRESSURE TEMPERATURE MEASUREMENTS

| | | | |
|----------|----------|----------|-------------------------------|
| Company: | ESSO | Country: | NORWAY |
| Field: | SLEIPNER | Well: | 15/8 - 1 |
| Zone: | | Date: | 22nd Dec. - 26th Dec. 1981 |

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| Company: | ESSO | Country: | NORWAY |
| Field: | SLEIPNER | Well: | 15/8 - 1 |
| Zone: | | Date: | 22nd Dec. - 26th Dec. 1981 |

INDEX

- 1 – CHARTS
- 2 – MEASUREMENT RESULTS
- 3 – SEQUENCE OF EVENTS
- 4 – WELL COMPLETION DATA
- 5 – OPERATING AND MEASURING CONDITIONS
- 6 – EQUIPMENT DATA
- 7 –

Flop petrol operator :

PER PORSEDAL

Company representative :

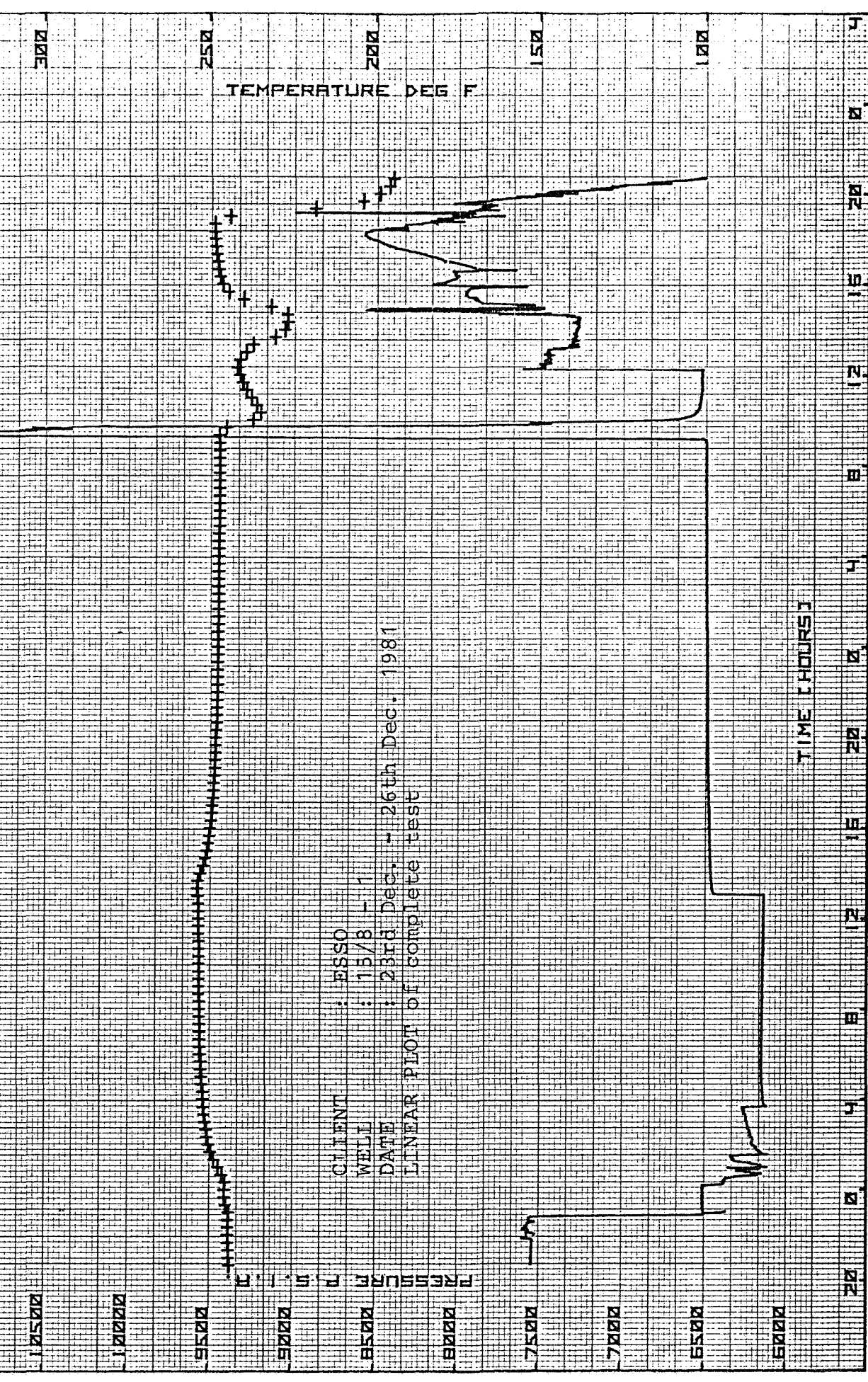
PAUL A. RODGERS

REPRODUCTION BY COMPANY

PA. o. 9270-1023

FLOPETROL HIGH ACCURACY PRESSURE MEASUREMENT [PLAYBACK]

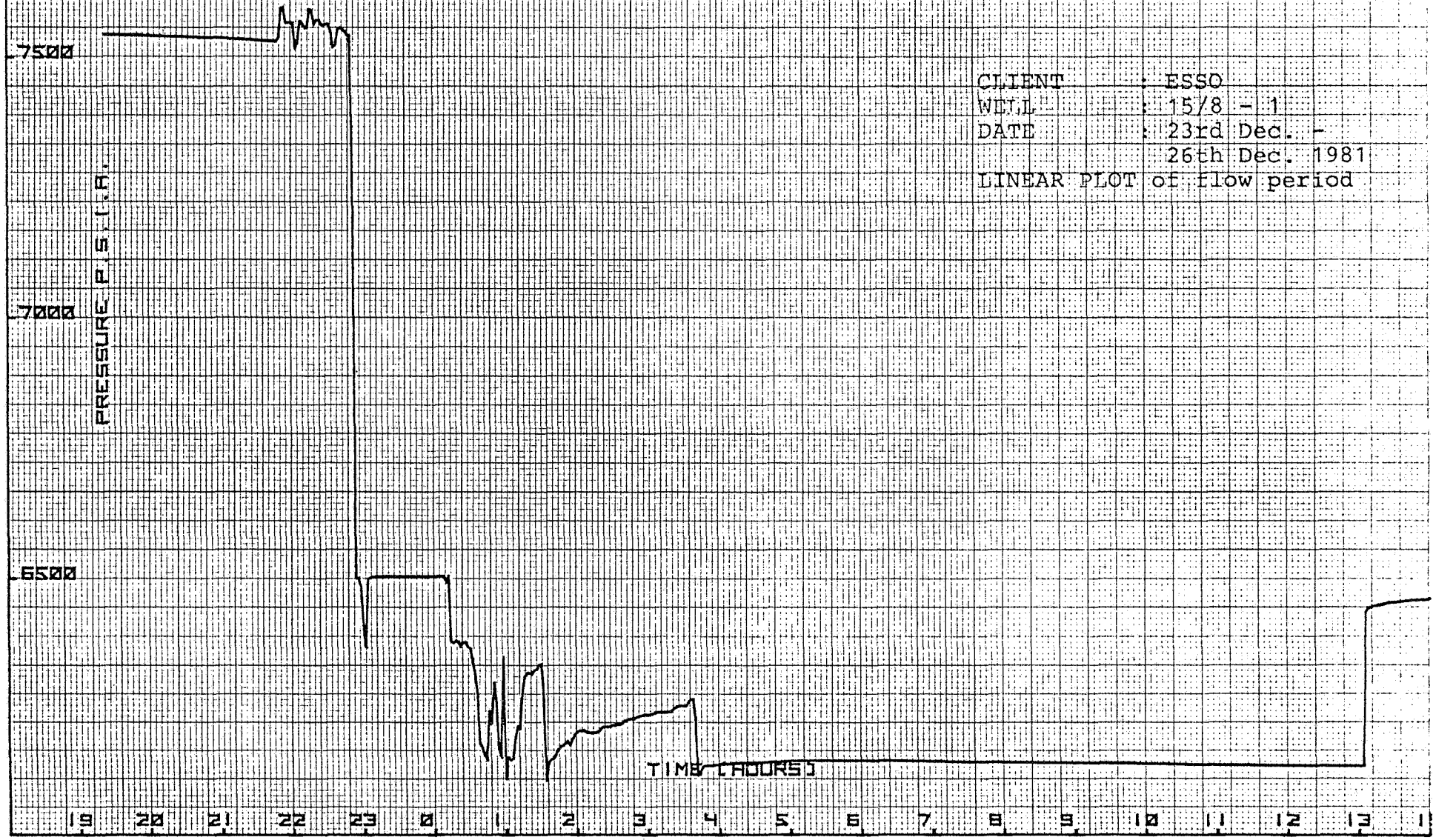
MEASUREMENT



CLIENT : ESSO
 WELL : 15/8 - 1
 DATE : 23rd Dec. - 26th Dec. 1981
 LINEAR PLOT of complete test

FLOPETROL

HIGH ACCURACY PRESSURE MEASUREMENT [PLAYBACK]



CLIENT : ESSO
WELL : 15/8 - 1
DATE : 23rd Dec. -
 26th Dec. 1981
LINEAR PLOT of flow period

INSTRUMENT AND RECORD

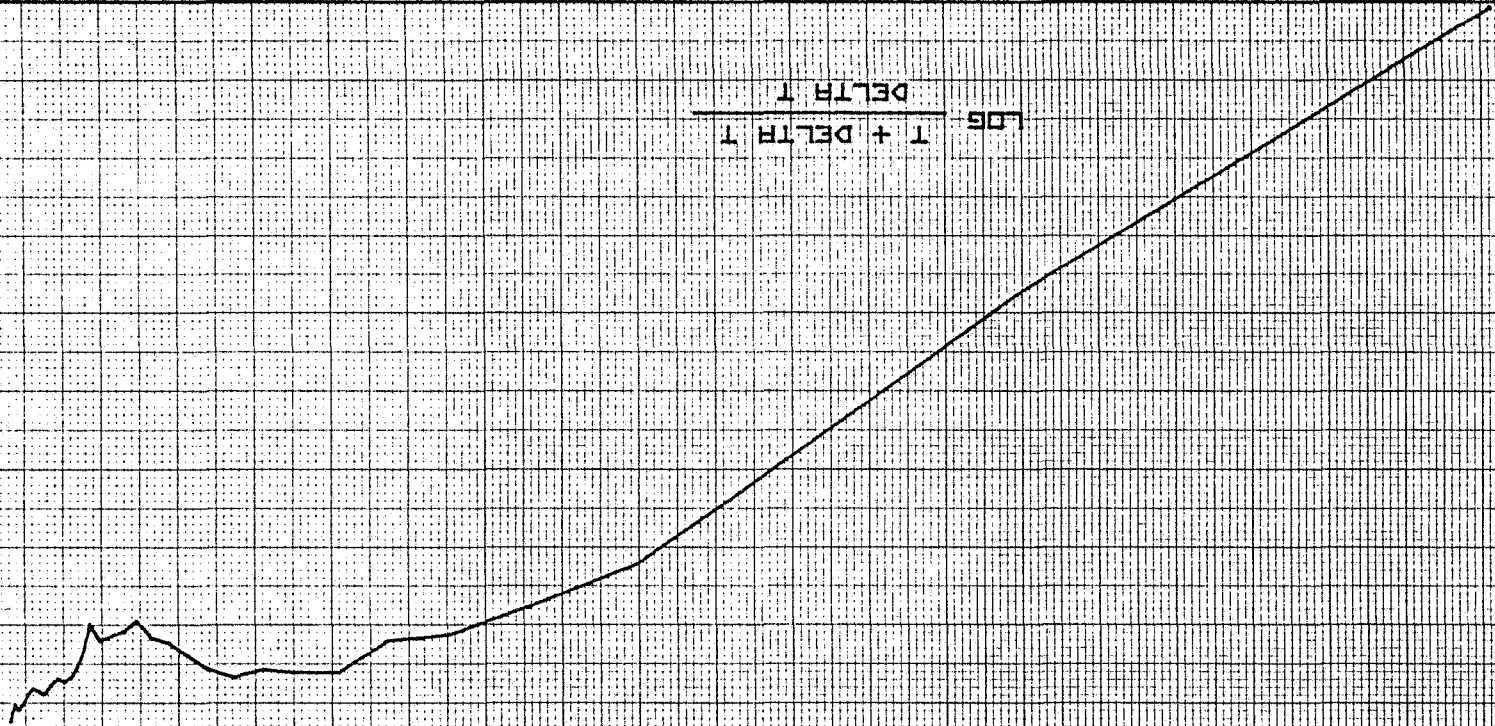
FLOPETROL HIGH ACCURACY PRESSURE MEASUREMENT [PLAYBACK]

CLIENT : ESSO
 WELL : 15/8 - 1
 DATE : 23rd Dec. 1981
 FLOW TIME : 12 min.
 START TIME : 23.02
 HORNER PLOT of Initial
 build - up (Expanded scale)

PRESSURE P.S.I., P.

6501
 6502
 6503
 6504
 6505
 6506
 6507
 6508
 6509

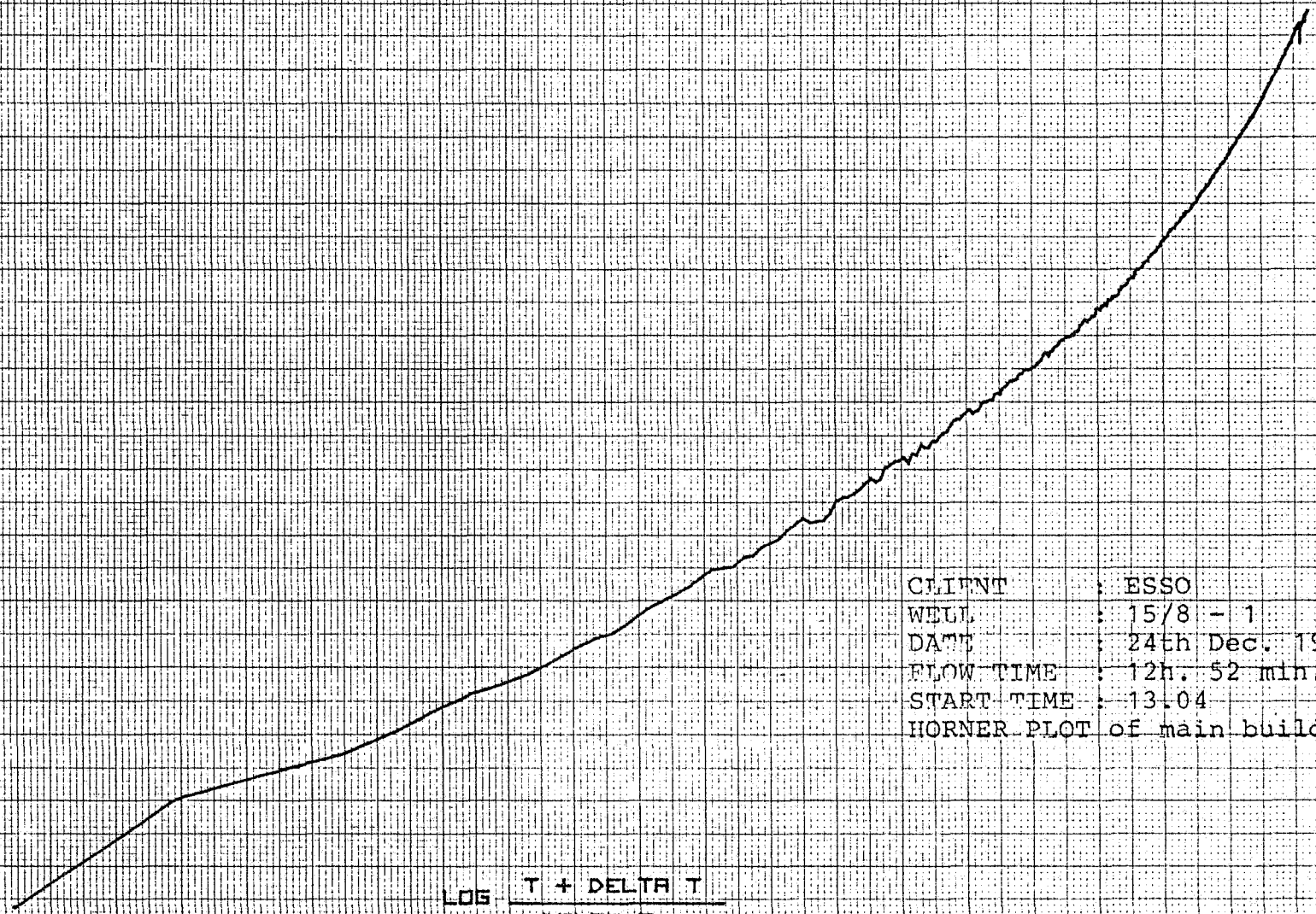
$\frac{\log T + \Delta T}{\Delta T}$



FLOPETROL HIGH ACCURACY PRESSURE MEASUREMENT [PLAYBACK]

6500
6490
6480
6470
6460
6450
6440
6430

PRESSURE P.S.I.A.



CLIENT : ESSO
 WELL : 15/8 - 1
 DATE : 24th Dec. 1981
 FLOW TIME : 12h. 52 min.
 START TIME : 13.04
 HORNER PLOT of main build - up.

$$\text{LOG } \frac{T + \text{DELTA } T}{\text{DELTA } T}$$

2

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FLOPETROL
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 4
PAGE 1

| TIME HR.MN.SS | PRESS. PSIA | TEMP. DEG.F | DEL.T (MINUTS) | LOG DEL.T | DEL.P PSIA | LOG DEL.P | LOG $\frac{T+DEL.T}{DEL.T}$ | REMARKS |
|------------------|----------------|----------------|-------------------|-----------|---------------|-----------|-----------------------------|--------------------------------|
| 18.44. 0 | 10.36 | | | | | | | 22 Dec. 1981 SSDR No. 81057 |
| 18.46. 0 | 10.68 | | | | | | | |
| 18.48. 0 | 10.74 | | | | | | | |
| 18.50. 0 | 10.76 | | | | | | | |
| 18.52. 0 | 10.76 | | | | | | | |
| 18.54. 0 | 10.74 | | | | | | | |
| 18.56. 0 | 10.72 | | | | | | | |
| 18.58. 0 | 10.68 | | | | | | | |
| 19. 0. 0 | 10.68 | | | | | | | |
| 19. 2. 0 | 10.64 | | | | | | | |
| 19. 4. 0 | 10.62 | 35.2 | | | | | | |
| 19. 6. 0 | 10.60 | | | | | | | |
| 19. 8. 0 | 10.59 | | | | | | | |
| 19.10. 0 | 10.62 | | | | | | | |
| 19.20. 0 | 10.64 | | | | | | | |
| 19.30. 0 | 10.55 | 34.5 | | | | | | |
| 19.40. 0 | 10.26 | | | | | | | |
| 19.50. 0 | 10.70 | 33.6 | | | | | | |
| 20. 0. 0 | 10.98 | | | | | | | |
| 20.10. 0 | 11.19 | 35.8 | | | | | | |
| 20.20. 0 | 11.51 | | | | | | | |
| 20.30. 0 | 89.94 | 37.6 | | | | | | 5 |
| 20.40. 0 | 116.07 | | | | | | | |
| 20.50. 0 | 119.20 | 40.1 | | | | | | |
| 21. 0. 0 | 126.68 | | | | | | | |
| 21.10. 0 | 126.34 | 42.1 | | | | | | |
| 21.20. 0 | 191.54 | | | | | | | |
| 21.30. 0 | 191.25 | 42.8 | | | | | | |
| 21.40. 0 | 249.67 | | | | | | | |
| 21.50. 0 | 312.74 | 43.2 | | | | | | 6 |
| 22. 0. 0 | 433.73 | | | | | | | |
| 22.10. 0 | 491.82 | 45.0 | | | | | | |
| 22.20. 0 | 552.38 | | | | | | | |
| 22.30. 0 | 572.55 | 52.5 | | | | | | |
| 22.40. 0 | 634.79 | | | | | | | |
| 22.50. 0 | 635.16 | 50.0 | | | | | | |
| 23. 0. 0 | 635.16 | | | | | | | |
| 23.10. 0 | 635.73 | 62.1 | | | | | | |
| 23.20. 0 | 634.65 | | | | | | | |
| 23.30. 0 | 635.22 | 63.7 | | | | | | 7 |
| 23.40. 0 | 634.82 | | | | | | | |
| 23.50. 0 | 751.66 | 64.6 | | | | | | |

FLOPETROL
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 2
PAGE 2

| TIME HR. MN. SS | PRESS. PSIA | TEMP. DEG. F | DEL. T (MINUTES) | LOG DEL. T | DEL. P PSIA | LOG DEL. P | LOG $\frac{T + DEL. T}{DEL. T}$ | REMARKS |
|--------------------|----------------|-----------------|---------------------|------------|----------------|------------|---------------------------------|--------------|
| | | | | | | | | 22 Dec. 1981 |
| 24. 0. 0 | 872.20 | | | | | | | |
| 0.10. 0 | 996.71 | 60.0 | | | | | | |
| 0.20. 0 | 1173.84 | | | | | | | |
| 0.30. 0 | 1194.14 | 69.0 | | | | | | |
| 0.40. 0 | 1290.41 | | | | | | | |
| 0.50. 0 | 1470.65 | 74.5 | | | | | | 8 |
| 1. 0. 0 | 1514.81 | | | | | | | |
| 1.10. 0 | 1676.99 | 79.5 | | | | | | |
| 1.20. 0 | 1898.62 | | | | | | | |
| 1.30. 0 | 2083.32 | 84.9 | | | | | | |
| 1.40. 0 | 2197.52 | | | | | | | |
| 1.50. 0 | 2362.26 | 91.6 | | | | | | |
| 2. 0. 0 | 2368.68 | | | | | | | |
| 2.10. 0 | 2369.39 | 97.9 | | | | | | |
| 2.20. 0 | 2547.67 | | | | | | | 9 |
| 2.30. 0 | 2722.66 | 102.6 | | | | | | |
| 2.40. 0 | 2912.64 | | | | | | | |
| 2.50. 0 | 3058.52 | 109.0 | | | | | | |
| 3. 0. 0 | 3231.78 | | | | | | | |
| 3.10. 0 | 3239.40 | 118.4 | | | | | | |
| 3.20. 0 | 3241.01 | | | | | | | |
| 3.30. 0 | 3471.65 | 127.2 | | | | | | |
| 3.40. 0 | 3627.58 | | | | | | | |
| 3.50. 0 | 3819.09 | 134.1 | | | | | | 10 |
| 4. 0. 0 | 4035.53 | | | | | | | |
| 4.10. 0 | 4096.31 | 144.3 | | | | | | |
| 4.20. 0 | 4102.13 | | | | | | | |
| 4.30. 0 | 4104.54 | 154.2 | | | | | | |
| 4.40. 0 | 4104.66 | | | | | | | |
| 4.50. 0 | 4103.01 | 158.7 | | | | | | |
| 5. 0. 0 | 4102.25 | | | | | | | |
| 5.10. 0 | 4298.74 | 160.5 | | | | | | |
| 5.20. 0 | 4451.49 | | | | | | | 11 |
| 5.30. 0 | 4614.47 | 162.9 | | | | | | |
| 5.40. 0 | 4831.94 | | | | | | | |
| 5.50. 0 | 4951.22 | 169.0 | | | | | | |
| 6. 0. 0 | 4958.19 | | | | | | | |
| 6.10. 0 | 5054.93 | 177.4 | | | | | | |
| 6.20. 0 | 5223.81 | | | | | | | |
| 6.30. 0 | 5476.28 | 183.0 | | | | | | |
| 6.40. 0 | 5674.40 | | | | | | | |
| 6.50. 0 | 5801.60 | 190.8 | | | | | | 12 |

FLOPETROL
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 2
PAGE 3

| TIME HR. MIN. SS | PRESS. PSIA | TEMP. DEG. F | DEL. T (MINUTLS) | LOG DEL. T | DEL. P PSIA | LOG DEL. P | LOG $\frac{T + DEL. T}{DEL. T}$ | REMARKS |
|---------------------|----------------|-----------------|---------------------|------------|----------------|------------|---------------------------------|---------|
| 7. 0. 0 | 5816.07 | | | | | | | |
| 7.10. 0 | 5978.51 | 198.3 | | | | | | |
| 7.20. 0 | 6126.32 | | | | | | | |
| 7.30. 0 | 6326.74 | 203.2 | | | | | | |
| 7.40. 0 | 6462.11 | | | | | | | |
| 7.50. 0 | 6676.35 | 209.3 | | | | | | |
| 8. 0. 0 | 6876.30 | | | | | | | |
| 8.10. 0 | 7021.54 | 216.7 | | | | | | |
| 8.20. 0 | 7196.36 | | | | | | | |
| 8.30. 0 | 7272.69 | 224.4 | | | | | | 13 |
| 8.40. 0 | 7278.64 | | | | | | | |
| 8.50. 0 | 7272.57 | 230.0 | | | | | | |
| 9. 0. 0 | 7271.03 | | | | | | | |
| 9.10. 0 | 7277.95 | 231.8 | | | | | | |
| 9.20. 0 | 7276.65 | | | | | | | |
| 9.30. 0 | 7264.78 | 232.5 | | | | | | |
| 9.40. 0 | 7264.35 | | | | | | | |
| 9.50. 0 | 7274.06 | 232.9 | | | | | | |
| 10. 0. 0 | 7266.44 | | | | | | | 14 |
| 10.10. 0 | 7290.20 | 233.1 | | | | | | |
| 10.20. 0 | 7276.73 | | | | | | | |
| 10.30. 0 | 7282.95 | 233.1 | | | | | | |
| 10.40. 0 | 7279.99 | | | | | | | |
| 10.50. 0 | 7281.05 | 233.4 | | | | | | |
| 11. 0. 0 | 7288.32 | | | | | | | |
| 11.10. 0 | 7273.69 | 233.6 | | | | | | |
| 11.20. 0 | 7284.18 | | | | | | | |
| 11.30. 0 | 7279.67 | 233.6 | | | | | | 15 |
| 11.40. 0 | 7282.48 | | | | | | | |
| 11.50. 0 | 7272.64 | 233.8 | | | | | | |
| 12. 0. 0 | 7282.62 | | | | | | | |
| 12.10. 0 | 7280.50 | 234.0 | | | | | | |
| 12.20. 0 | 7286.97 | | | | | | | |
| 12.30. 0 | 7309.54 | 234.0 | | | | | | |
| 12.40. 0 | 7381.40 | | | | | | | |
| 12.50. 0 | 7470.05 | 234.1 | | | | | | |
| 13. 0. 0 | 7446.48 | | | | | | | 16 |
| 13.10. 0 | 7476.13 | 236.5 | | | | | | |
| 13.20. 0 | 7474.53 | | | | | | | |
| 13.30. 0 | 7523.49 | 238.8 | | | | | | |
| 13.40. 0 | 7533.84 | | | | | | | |
| 13.50. 0 | 7553.34 | 240.4 | | | | | | |

FLOPETROL
PRESSURE & TEMPERATURE CALCULATIONS

| TIME HR.MN.SS | PRESS. PSIA | TEMP. DEG.F | DEL.T (MINUTES) | LOG DEL.T | DEL.P PSIA | LOG DEL.P | LOG T+DEL.T DEL.T | REMARKS |
|------------------|----------------|----------------|--------------------|-----------|---------------|-----------|----------------------|---------|
| 21. 0. 0 | 7537.73 | | | | | | | |
| 21.10. 0 | 7536.47 | 243.7 | | | | | | |
| 21.12. 0 | 7536.98 | | | | | | | |
| 21.14. 0 | 7536.58 | | | | | | | |
| 21.16. 0 | 7536.18 | | | | | | | |
| 21.18. 0 | 7535.78 | | | | | | | |
| 21.20. 0 | 7535.38 | | | | | | | |
| 21.22. 0 | 7534.98 | | | | | | | |
| 21.24. 0 | 7534.67 | 243.7 | | | | | | |
| 21.26. 0 | 7534.57 | | | | | | | |
| 21.28. 0 | 7534.29 | --- | | | | | | |
| 21.30. 0 | 7533.92 | | | | | | | |
| 21.32. 0 | 7533.61 | | | | | | | |
| 21.34. 0 | 7532.82 | | | | | | | |
| 21.36. 0 | 7532.33 | | | | | | | |
| 21.38. 0 | 7532.14 | | | | | | | |
| 21.40. 0 | 7531.87 | | | | | | | |
| 21.42. 0 | 7531.68 | | | | | | | |
| 21.44. 0 | 7531.39 | 243.9 | | | | | | |
| 21.46. 0 | 7531.06 | | | | | | | |
| 21.48. 0 | 7530.61 | | | | | | | |
| 21.50. 0 | 7539.52 | | | | | | | |
| 21.52. 0 | 7595.17 | | | | | | | |
| 21.54. 0 | 7596.49 | | | | | | | |
| 21.56. 0 | 7565.79 | | | | | | | |
| 21.58. 0 | 7566.47 | | | | | | | |
| 22. 0. 0 | 7566.53 | | | | | | | |
| 22. 2. 0 | 7566.45 | | | | | | | |
| 22. 4. 0 | 7515.89 | 243.9 | | | | | | |
| 22. 6. 0 | 7527.07 | | | | | | | |
| 22. 8. 0 | 7568.68 | | | | | | | |
| 22.10. 0 | 7563.42 | | | | | | | |
| 22.12. 0 | 7556.67 | | | | | | | |
| 22.14. 0 | 7556.90 | | | | | | | |
| 22.16. 0 | 7592.04 | | | | | | | |
| 22.18. 0 | 7591.01 | | | | | | | |
| 22.20. 0 | 7562.56 | -- | | | | | | |
| 22.22. 0 | 7571.08 | | | | | | | |
| 22.24. 0 | 7571.41 | 243.9 | | | | | | |
| 22.26. 0 | 7562.35 | | | | | | | |
| 22.28. 0 | 7562.35 | | | | | | | |
| 22.30. 0 | 7563.08 | | | | | | | |

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FLOPETROL
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 2
PAGE 6

| TIME HR.MM.SS | PRESS. PSIA | TEMP. DEG.F | DEL.T (MINUTES) | LOG DEL.T | DEL.P PSIA | LOG DEL.P | LOG $\frac{T+DEL.T}{DEL.T}$ | REMARKS |
|------------------|----------------|----------------|--------------------|-----------|---------------|-----------|-----------------------------|-------------------------|
| 22.32.0 | 7562.96 | | | | | | | |
| 22.34.0 | 7548.05 | | | | | | | |
| 22.36.0 | 7518.81 | | | | | | | |
| 22.38.0 | 7524.63 | | | | | | | |
| 22.40.0 | 7553.19 | | | | | | | |
| 22.42.0 | 7557.13 | | | | | | | |
| 22.44.0 | 7551.99 | 243.9 | | | | | | |
| 22.46.0 | 7550.07 | | | | | | | |
| 22.48.0 | 7541.90 | | | | | | | |
| 22.50.0 | 7541.90 | | | | | | | |
| 22.52.0 | 7197.01 | | 2.00 | 0.3010 | 344.89 | 2.5377 | | WELL OPENED for initial |
| 22.54.0 | 6499.94 | | 4.00 | 0.6021 | 1041.96 | 3.0179 | | 22.50.0 flow |
| 22.56.0 | 6501.37 | | 6.00 | 0.7782 | 1040.53 | 3.0173 | | |
| 22.58.0 | 6482.94 | | 8.00 | 0.9031 | 1058.96 | 3.0249 | | SHUT IN PRES. |
| 23.0.0 | 6410.34 | | 10.00 | 1.0000 | 1131.56 | 3.0537 | | 7541.90 |
| 23.2.0 | 6368.27 | | 12.00 | 1.0792 | 1173.63 | 3.0695 | | |
| 23.4.0 | 6501.04 | 243.7 | 2.00 | 0.3010 | 132.77 | 2.1231 | 0.8451 | SHUT IN TIME |
| 23.6.0 | 6502.85 | | 4.00 | 0.6021 | 134.58 | 2.1290 | 0.6021 | 23.2.0 |
| 23.8.0 | 6503.94 | | 6.00 | 0.7782 | 135.67 | 2.1325 | 0.4771 | |
| 23.10.0 | 6504.62 | | 8.00 | 0.9031 | 136.35 | 2.1347 | 0.3979 | FLOWING PRES. |
| 23.12.0 | 6504.89 | | 10.00 | 1.0000 | 136.62 | 2.1355 | 0.3424 | 6368.27 |
| 23.14.0 | 6505.07 | | 12.00 | 1.0792 | 136.80 | 2.1361 | 0.3010 | |
| 23.16.0 | 6505.11 | | 14.00 | 1.1461 | 136.84 | 2.1362 | 0.2688 | FLOW TIME 1 |
| 23.18.0 | 6505.31 | | 16.00 | 1.2041 | 137.04 | 2.1368 | 0.2430 | [HOURS] |
| 23.20.0 | 6505.31 | | 18.00 | 1.2553 | 137.04 | 2.1368 | 0.2218 | 0.12.0 |
| 23.22.0 | 6505.29 | | 20.00 | 1.3010 | 137.02 | 2.1368 | 0.2041 | |
| 23.24.0 | 6505.34 | 244.6 | 22.00 | 1.3424 | 137.07 | 2.1369 | 0.1891 | |
| 23.26.0 | 6505.29 | | 24.00 | 1.3802 | 137.02 | 2.1368 | 0.1761 | |
| 23.28.0 | 6505.20 | | 26.00 | 1.4150 | 136.93 | 2.1365 | 0.1648 | |
| 23.30.0 | 6505.12 | | 28.00 | 1.4472 | 136.85 | 2.1362 | 0.1549 | |
| 23.32.0 | 6505.09 | | 30.00 | 1.4771 | 136.82 | 2.1361 | 0.1461 | |
| 23.34.0 | 6504.98 | | 32.00 | 1.5051 | 136.71 | 2.1358 | 0.1383 | |
| 23.36.0 | 6505.05 | | 34.00 | 1.5315 | 136.78 | 2.1360 | 0.1313 | |
| 23.38.0 | 6505.08 | | 36.00 | 1.5563 | 136.81 | 2.1361 | 0.1249 | |
| 23.40.0 | 6505.11 | | 38.00 | 1.5798 | 136.84 | 2.1362 | 0.1192 | |
| 23.42.0 | 6505.00 | | 40.00 | 1.6021 | 136.73 | 2.1359 | 0.1139 | |
| 23.44.0 | 6505.22 | 244.9 | 42.00 | 1.6232 | 136.95 | 2.1366 | 0.1091 | |
| 23.46.0 | 6505.33 | | 44.00 | 1.6435 | 137.06 | 2.1369 | 0.1047 | |
| 23.48.0 | 6505.37 | | 46.00 | 1.6628 | 137.10 | 2.1370 | 0.1007 | |
| 23.50.0 | 6505.35 | | 48.00 | 1.6812 | 137.08 | 2.1370 | 0.0969 | |
| 23.52.0 | 6505.39 | | 50.00 | 1.6990 | 137.12 | 2.1371 | 0.0934 | |
| 23.54.0 | 6505.45 | | 52.00 | 1.7160 | 137.18 | 2.1373 | 0.0902 | |

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FLOPETROL
PRESSURE & TEMPERATURE CALCULATIONS

| TIME HR.MN.SS | PRESS. PSIA | TEMP. DEG.F | DEL.T (MINUTES) | LOG DEL.T | DEL.P PSIA | LOG DEL.P | LOG T+DEL.T DEL.T | REMARKS |
|------------------|----------------|----------------|--------------------|-----------|---------------|-----------|----------------------|-----------------------------|
| 23.56.0 | 6505.43 | | 54.00 | 1.7324 | 137.16 | 2.1372 | 0.0872 | |
| 23.58.0 | 6505.41 | | 56.00 | 1.7482 | 137.14 | 2.1372 | 0.0843 | |
| 24.00.0 | 6505.45 | | 58.00 | 1.7634 | 137.16 | 2.1373 | 0.0817 | |
| 24.00.0 | 6505.45 | | 58.00 | 1.7634 | 137.18 | 2.1373 | 0.0817 | 24 Dec. 1981 |
| 0.2.0 | 6505.51 | | 60.00 | 1.7782 | 137.24 | 2.1375 | 0.0792 | |
| 0.4.0 | 6505.55 | 244.9 | 62.00 | 1.7924 | 137.28 | 2.1376 | 0.0768 | |
| 0.6.0 | 6505.52 | | 64.00 | 1.8062 | 137.25 | 2.1375 | 0.0746 | |
| 0.8.0 | 6505.62 | | 66.00 | 1.8195 | 137.35 | 2.1378 | 0.0726 | |
| 0.10.0 | 6492.03 | | 68.00 | 1.8325 | 123.81 | 2.0928 | 0.0706 | |
| 0.12.0 | 6505.88 | | 70.00 | 1.8451 | 137.61 | 2.1386 | 0.0687 | |
| 0.14.0 | 6379.10 | | 2.00 | 0.3010 | 126.78 | 2.1031 | | WELL OPENED to 20/64" |
| 0.16.0 | 6376.32 | | 4.00 | 0.6021 | 129.56 | 2.1125 | | 0.12.0 adj. choke |
| 0.18.0 | 6380.75 | | 6.00 | 0.7782 | 125.13 | 2.0974 | | |
| 0.20.0 | 6379.50 | | 8.00 | 0.9031 | 126.38 | 2.1017 | | SHOT IN PRES. |
| 0.22.0 | 6369.11 | | 10.00 | 1.0000 | 136.77 | 2.1360 | | 6505.88 |
| 0.24.0 | 6376.84 | 244.8 | 12.00 | 1.0792 | 129.04 | 2.1107 | | |
| 0.26.0 | 6378.47 | | 14.00 | 1.1461 | 127.41 | 2.1052 | | |
| 0.28.0 | 6369.06 | | 16.00 | 1.2041 | 136.82 | 2.1361 | | |
| 0.30.0 | 6366.03 | | 18.00 | 1.2553 | 139.85 | 2.1457 | | |
| 0.32.0 | 6339.71 | | 20.00 | 1.3010 | 166.17 | 2.2206 | | |
| 0.34.0 | 6314.87 | | 22.00 | 1.3424 | 191.01 | 2.2811 | | |
| 0.36.0 | 6273.74 | | 24.00 | 1.3802 | 232.14 | 2.3657 | | |
| 0.38.0 | 6181.92 | | 26.00 | 1.4150 | 323.96 | 2.5105 | | |
| 0.40.0 | 6171.55 | | 28.00 | 1.4472 | 334.33 | 2.5242 | | |
| 0.42.0 | 6157.93 | | 30.00 | 1.4771 | 347.95 | 2.5415 | | |
| 0.44.0 | 6147.38 | 245.7 | 32.00 | 1.5051 | 358.50 | 2.5545 | | |
| 0.46.0 | 6245.76 | | 34.00 | 1.5315 | 260.12 | 2.4152 | | |
| 0.48.0 | 6220.40 | | 36.00 | 1.5563 | 285.48 | 2.4556 | | |
| 0.50.0 | 6299.98 | | 38.00 | 1.5798 | 205.90 | 2.3137 | | / Choke increased slowly to |
| 0.52.0 | 6270.76 | | 40.00 | 1.6021 | 235.12 | 2.3713 | | 48/64" adj. |
| 0.54.0 | 6168.75 | | 42.00 | 1.6232 | 337.13 | 2.5278 | | |
| 0.56.0 | 6152.88 | | 44.00 | 1.6435 | 353.00 | 2.5478 | | |
| 0.58.0 | 6350.77 | | 46.00 | 1.6628 | 155.11 | 2.1906 | | |
| 1.0.0 | 6110.25 | | 48.00 | 1.6812 | 395.63 | 2.5973 | | |
| 1.2.0 | 6153.00 | | 50.00 | 1.6990 | 352.88 | 2.5476 | | |
| 1.4.0 | 6147.86 | 246.9 | 52.00 | 1.7160 | 356.02 | 2.5539 | | 24 |
| 1.6.0 | 6152.20 | | 54.00 | 1.7324 | 353.68 | 2.5486 | | |
| 1.8.0 | 6189.18 | | 56.00 | 1.7482 | 316.70 | 2.5006 | | |
| 1.10.0 | 6214.69 | | 58.00 | 1.7634 | 291.19 | 2.4642 | | |
| 1.12.0 | 6210.43 | | 60.00 | 1.7782 | 295.45 | 2.4705 | | |
| 1.14.0 | 6284.64 | | 62.00 | 1.7924 | 221.24 | 2.3449 | | |
| 1.16.0 | 6311.36 | | 64.00 | 1.8062 | 194.52 | 2.2890 | | |

FLOPPETROL
PRESSURE & TEMPERATURE CALCULATIONS

| TIME HR.MN.SS | PRESS. PSIA | TEMP. DEG.F | DEL.T (MINUTES) | LOG DEL.T | DEL.P PSIA | LOG DEL.P | LOG T+DEL.T DEL.T | REMARKS |
|------------------|----------------|----------------|--------------------|-----------|---------------|-----------|----------------------|-------------------------|
| 1.18.0 | 6317.90 | | 66.00 | 1.8195 | 187.98 | 2.2741 | | |
| 1.20.0 | 6316.18 | | 68.00 | 1.8325 | 187.70 | 2.2735 | | |
| 1.22.0 | 6315.96 | | 70.00 | 1.8451 | 189.92 | 2.2786 | | |
| 1.24.0 | 6324.21 | 248.2 | 72.00 | 1.8573 | 181.67 | 2.2593 | | |
| 1.26.0 | 6326.14 | | 74.00 | 1.8692 | 179.74 | 2.2546 | | |
| 1.28.0 | 6334.99 | | 76.00 | 1.8808 | 170.09 | 2.2327 | | |
| 1.30.0 | 6337.57 | | 78.00 | 1.8921 | 168.31 | 2.2261 | | |
| 1.32.0 | 6267.07 | | 80.00 | 1.9031 | 238.81 | 2.3781 | | Changed choke to 56/64" |
| 1.34.0 | 6107.26 | | 82.00 | 1.9138 | 398.62 | 2.6006 | | adj. |
| 1.36.0 | 6142.40 | | 84.00 | 1.9243 | 363.48 | 2.5605 | | |
| 1.38.0 | 6150.09 | | 86.00 | 1.9345 | 355.79 | 2.5512 | | |
| 1.40.0 | 6151.48 | | 88.00 | 1.9445 | 354.40 | 2.5495 | | |
| 1.42.0 | 6157.52 | | 90.00 | 1.9542 | 348.36 | 2.5420 | | |
| 1.44.0 | 6168.91 | 249.1 | 92.00 | 1.9638 | 336.97 | 2.5276 | | |
| 1.46.0 | 6173.91 | | 94.00 | 1.9731 | 331.97 | 2.5211 | | |
| 1.48.0 | 6177.05 | | 96.00 | 1.9823 | 328.83 | 2.5170 | | |
| 1.50.0 | 6181.22 | | 98.00 | 1.9912 | 324.66 | 2.5114 | | |
| 1.52.0 | 6185.04 | | 100.00 | 2.0000 | 320.84 | 2.5063 | | |
| 1.54.0 | 6178.30 | | 102.00 | 2.0086 | 327.58 | 2.5153 | | |
| 1.56.0 | 6188.33 | | 104.00 | 2.0170 | 317.55 | 2.5018 | | |
| 1.58.0 | 6198.06 | | 106.00 | 2.0253 | 307.82 | 2.4883 | | |
| 2.0.0 | 6203.96 | | 108.00 | 2.0334 | 301.92 | 2.4799 | | |
| 2.2.0 | 6206.79 | | 110.00 | 2.0414 | 299.09 | 2.4758 | | |
| 2.4.0 | 6206.97 | 249.8 | 112.00 | 2.0492 | 298.91 | 2.4755 | | |
| 2.6.0 | 6207.34 | | 114.00 | 2.0569 | 298.54 | 2.4750 | | |
| 2.8.0 | 6203.99 | | 116.00 | 2.0645 | 301.89 | 2.4798 | | |
| 2.10.0 | 6202.90 | | 118.00 | 2.0719 | 302.98 | 2.4814 | | |
| 2.12.0 | 6202.29 | | 120.00 | 2.0792 | 303.59 | 2.4823 | | |
| 2.14.0 | 6202.67 | | 122.00 | 2.0864 | 303.21 | 2.4817 | | |
| 2.16.0 | 6203.01 | | 124.00 | 2.0934 | 302.87 | 2.4813 | | |
| 2.18.0 | 6205.04 | | 126.00 | 2.1004 | 300.84 | 2.4783 | | |
| 2.20.0 | 6209.52 | | 128.00 | 2.1072 | 296.36 | 2.4718 | | |
| 2.22.0 | 6213.94 | | 130.00 | 2.1139 | 291.94 | 2.4653 | | |
| 2.24.0 | 6214.31 | 250.3 | 132.00 | 2.1206 | 291.57 | 2.4647 | | |
| 2.26.0 | 6214.26 | | 134.00 | 2.1271 | 291.62 | 2.4648 | | |
| 2.28.0 | 6214.66 | | 136.00 | 2.1335 | 291.22 | 2.4642 | | |
| 2.30.0 | 6217.27 | | 138.00 | 2.1399 | 288.61 | 2.4603 | | |
| 2.32.0 | 6217.80 | | 140.00 | 2.1461 | 288.08 | 2.4595 | | |
| 2.34.0 | 6218.99 | | 142.00 | 2.1523 | 286.89 | 2.4577 | | |
| 2.36.0 | 6218.80 | | 144.00 | 2.1584 | 287.08 | 2.4580 | | |
| 2.38.0 | 6221.33 | | 146.00 | 2.1644 | 284.55 | 2.4542 | | |
| 2.40.0 | 6225.75 | | 148.00 | 2.1703 | 280.13 | 2.4474 | | |

FLIGHTROL
PRESSURE & TEMPERATURE CALCULATIONS

| TIME HR.MN.SS | PRESS. PSIA | TEMP. DEG.F | DEL.T (MINUTES) | LOG DEL.T | DEL.P PSIA | LOG DEL.P | LOG T+DEL.T DEL.T | REMARKS |
|------------------|----------------|----------------|--------------------|-----------|---------------|-----------|----------------------|------------------------------|
| 2.42.0 | 6227.77 | | 150.00 | 2.1761 | 278.11 | 2.4442 | | |
| 2.44.0 | 6229.49 | 250.5 | 152.00 | 2.1818 | 276.39 | 2.4415 | | |
| 2.46.0 | 6229.90 | | 154.00 | 2.1875 | 275.96 | 2.4409 | | |
| 2.48.0 | 6230.05 | | 156.00 | 2.1931 | 275.83 | 2.4406 | | |
| 2.50.0 | 6232.62 | | 158.00 | 2.1987 | 273.26 | 2.4366 | | |
| 2.52.0 | 6235.19 | | 160.00 | 2.2041 | 270.69 | 2.4325 | | |
| 2.54.0 | 6236.53 | | 162.00 | 2.2095 | 269.35 | 2.4303 | | |
| 2.56.0 | 6237.61 | | 164.00 | 2.2148 | 268.27 | 2.4286 | | |
| 2.58.0 | 6238.26 | | 166.00 | 2.2201 | 267.62 | 2.4275 | | |
| 3.0.0 | 6237.58 | | 168.00 | 2.2253 | 268.30 | 2.4286 | | |
| 3.0.0 | 6239.01 | | 170.00 | 2.2304 | 266.67 | 2.4263 | | |
| 3.4.0 | 6239.91 | 250.9 | 172.00 | 2.2355 | 265.97 | 2.4248 | | |
| 3.6.0 | 6241.66 | | 174.00 | 2.2405 | 264.22 | 2.4220 | | |
| 3.8.0 | 6242.43 | | 176.00 | 2.2455 | 263.45 | 2.4207 | | |
| 3.10.0 | 6242.28 | | 178.00 | 2.2504 | 263.60 | 2.4209 | | |
| 3.12.0 | 6242.29 | | 180.00 | 2.2553 | 263.59 | 2.4209 | | |
| 3.14.0 | 6242.43 | | 182.00 | 2.2601 | 263.45 | 2.4207 | | |
| 3.16.0 | 6243.16 | | 184.00 | 2.2648 | 262.72 | 2.4195 | | |
| 3.18.0 | 6243.86 | | 186.00 | 2.2695 | 262.02 | 2.4183 | | |
| 3.20.0 | 6244.34 | | 188.00 | 2.2742 | 261.54 | 2.4175 | | |
| 3.22.0 | 6250.28 | | 190.00 | 2.2788 | 255.60 | 2.4076 | | |
| 3.24.0 | 6252.66 | 251.2 | 192.00 | 2.2833 | 253.22 | 2.4035 | | |
| 3.26.0 | 6254.89 | | 194.00 | 2.2878 | 250.99 | 2.3997 | | |
| 3.28.0 | 6255.42 | | 196.00 | 2.2923 | 250.46 | 2.3987 | | |
| 3.30.0 | 6254.71 | | 198.00 | 2.2967 | 251.17 | 2.4000 | | |
| 3.32.0 | 6254.85 | | 200.00 | 2.3010 | 251.03 | 2.3997 | | |
| 3.34.0 | 6261.57 | | 202.00 | 2.3054 | 244.31 | 2.3879 | | |
| 3.36.0 | 6267.96 | | 204.00 | 2.3096 | 237.92 | 2.3764 | | |
| 3.38.0 | 6269.07 | | 206.00 | 2.3139 | 236.61 | 2.3744 | | Changed choke to 56/64" Pos. |
| 3.40.0 | 6232.74 | | 208.00 | 2.3181 | 273.14 | 2.4364 | | |
| 3.42.0 | 6117.44 | | 210.00 | 2.3222 | 388.44 | 2.5893 | | |
| 3.44.0 | 6122.98 | 251.4 | 212.00 | 2.3263 | 382.90 | 2.5831 | | |
| 3.46.0 | 6135.03 | | 214.00 | 2.3304 | 370.85 | 2.5692 | | |
| 3.48.0 | 6136.29 | | 216.00 | 2.3345 | 369.59 | 2.5677 | | |
| 3.50.0 | 6136.68 | | 218.00 | 2.3385 | 369.20 | 2.5673 | | |
| 3.52.0 | 6136.94 | | 220.00 | 2.3424 | 368.94 | 2.5670 | | |
| 3.54.0 | 6137.29 | | 222.00 | 2.3464 | 368.59 | 2.5665 | | |
| 3.56.0 | 6138.32 | | 224.00 | 2.3502 | 367.56 | 2.5653 | | |
| 3.58.0 | 6139.08 | | 226.00 | 2.3541 | 366.80 | 2.5644 | | |
| 4.0.0 | 6139.86 | | 228.00 | 2.3579 | 366.02 | 2.5635 | | |
| 4.2.0 | 6140.13 | | 230.00 | 2.3617 | 365.75 | 2.5632 | | |
| 4.4.0 | 6140.25 | 251.6 | 232.00 | 2.3655 | 365.63 | 2.5630 | | |

FLOPETICL
PRESSURE & TEMPERATURE CALCULATIONS

| TIME Hr.Min.SS | PRESS. PSIA | TEMP. DEG.F | DEL.T (MINUTES) | LOG DEL.T | DEL.P PSIA | LOG DEL.P | LOG (DEL.P DEL.T) | REMARKS |
|-------------------|----------------|----------------|--------------------|-----------|---------------|-----------|----------------------|---------|
| 4. 6. 0 | 6140.37 | | 234.00 | 2.3692 | 365.51 | 2.5629 | | |
| 4. 8. 0 | 6140.55 | | 236.00 | 2.3729 | 365.33 | 2.5627 | | |
| 4.10. 0 | 6141.00 | | 236.00 | 2.3766 | 364.88 | 2.5622 | | |
| 4.12. 0 | 6141.27 | | 240.00 | 2.3802 | 364.61 | 2.5618 | | |
| 4.14. 0 | 6141.95 | | 242.00 | 2.3838 | 363.93 | 2.5610 | | |
| 4.16. 0 | 6142.03 | | 244.00 | 2.3874 | 363.65 | 2.5609 | | |
| 4.18. 0 | 6142.27 | | 246.00 | 2.3909 | 363.61 | 2.5606 | | |
| 4.20. 0 | 6142.72 | | 248.00 | 2.3945 | 363.16 | 2.5601 | | |
| 4.22. 0 | 6142.90 | | 250.00 | 2.3979 | 362.98 | 2.5599 | | |
| 4.24. 0 | 6143.19 | 251.6 | 252.00 | 2.4014 | 362.69 | 2.5595 | | |
| 4.26. 0 | 6143.53 | | 254.00 | 2.4046 | 362.35 | 2.5591 | | |
| 4.28. 0 | 6143.69 | | 256.00 | 2.4082 | 362.19 | 2.5589 | | |
| 4.30. 0 | 6143.67 | | 258.00 | 2.4116 | 362.21 | 2.5590 | | |
| 4.32. 0 | 6144.05 | | 260.00 | 2.4150 | 361.83 | 2.5585 | | |
| 4.34. 0 | 6144.11 | | 262.00 | 2.4183 | 361.77 | 2.5584 | | |
| 4.36. 0 | 6144.46 | | 264.00 | 2.4216 | 361.42 | 2.5580 | | |
| 4.38. 0 | 6144.97 | | 266.00 | 2.4249 | 360.91 | 2.5574 | | |
| 4.40. 0 | 6144.78 | | 268.00 | 2.4281 | 361.10 | 2.5576 | | |
| 4.50. 0 | 6145.73 | 252.0 | 278.00 | 2.4440 | 360.15 | 2.5565 | | |
| 5. 0. 0 | 6146.96 | | 288.00 | 2.4594 | 358.92 | 2.5550 | | |
| 5.10. 0 | 6146.96 | 252.0 | 298.00 | 2.4742 | 358.92 | 2.5550 | | |
| 5.20. 0 | 6147.24 | | 308.00 | 2.4886 | 358.64 | 2.5547 | | |
| 5.30. 0 | 6147.33 | 252.1 | 318.00 | 2.5024 | 358.55 | 2.5545 | | |
| 5.40. 0 | 6147.34 | | 328.00 | 2.5159 | 358.54 | 2.5545 | | 27 |
| 5.50. 0 | 6147.26 | 252.1 | 338.00 | 2.5289 | 358.62 | 2.5546 | | |
| 6. 0. 0 | 6147.33 | | 348.00 | 2.5416 | 358.55 | 2.5545 | | |
| 6.10. 0 | 6147.24 | 252.3 | 358.00 | 2.5539 | 358.64 | 2.5547 | | |
| 6.20. 0 | 6147.35 | | 368.00 | 2.5656 | 358.53 | 2.5545 | | |
| 6.30. 0 | 6147.10 | 252.5 | 378.00 | 2.5775 | 358.76 | 2.5546 | | |
| 6.40. 0 | 6146.66 | | 388.00 | 2.5886 | 359.22 | 2.5554 | | |
| 6.50. 0 | 6146.42 | 252.5 | 398.00 | 2.5999 | 359.46 | 2.5557 | | |
| 7. 0. 0 | 6146.00 | | 408.00 | 2.6107 | 359.88 | 2.5562 | | |
| 7.10. 0 | 6145.93 | 252.5 | 418.00 | 2.6212 | 359.95 | 2.5562 | | 28 |
| 7.20. 0 | 6145.36 | | 428.00 | 2.6314 | 360.52 | 2.5569 | | |
| 7.30. 0 | 6145.22 | 252.5 | 438.00 | 2.6415 | 360.66 | 2.5571 | | |
| 7.40. 0 | 6145.00 | | 448.00 | 2.6513 | 360.88 | 2.5574 | | |
| 7.50. 0 | 6144.78 | 252.7 | 458.00 | 2.6609 | 361.10 | 2.5576 | | |
| 8. 0. 0 | 6144.46 | | 468.00 | 2.6702 | 361.42 | 2.5580 | | |
| 8.10. 0 | 6144.09 | 252.7 | 478.00 | 2.6794 | 361.79 | 2.5585 | | |
| 8.20. 0 | 6144.03 | | 488.00 | 2.6884 | 361.85 | 2.5585 | | |
| 8.30. 0 | 6143.52 | 252.7 | 498.00 | 2.6972 | 362.36 | 2.5591 | | |
| 8.40. 0 | 6143.47 | | 508.00 | 2.7059 | 362.41 | 2.5592 | | 29 |

FLOCELTRON
PRESSURE & TEMPERATURE CALCULATIONS

| TIME HR:MIN:SS | PRESS. PSIA | TEMP. DEG.F | DEL.T (MINUTS) | LOG DEL.T | DEL.P PSIA | LOG DEL.P | LOG T+DEL.T DEL.T | REMARKS |
|-------------------|----------------|----------------|-------------------|-----------|---------------|-----------|----------------------|---------|
| 8.50.0 | 6143.09 | 252.9 | 518.00 | 2.7143 | 362.79 | 2.5597 | | |
| 9.0.0 | 6142.72 | | 528.00 | 2.7226 | 363.16 | 2.5601 | | |
| 9.10.0 | 6142.47 | 252.9 | 538.00 | 2.7308 | 363.41 | 2.5604 | | |
| 9.20.0 | 6142.10 | | 548.00 | 2.7388 | 363.78 | 2.5608 | | |
| 9.30.0 | 6141.75 | 252.9 | 558.00 | 2.7466 | 364.13 | 2.5613 | | |
| 9.40.0 | 6141.73 | | 568.00 | 2.7543 | 364.15 | 2.5613 | | |
| 9.50.0 | 6141.29 | 252.9 | 578.00 | 2.7619 | 364.59 | 2.5618 | | |
| 10.0.0 | 6140.88 | | 588.00 | 2.7694 | 365.00 | 2.5623 | | |
| 10.10.0 | 6140.61 | 252.9 | 598.00 | 2.7767 | 365.27 | 2.5626 | | 30 |
| 10.20.0 | 6140.41 | | 608.00 | 2.7839 | 365.47 | 2.5629 | | |
| 10.30.0 | 6140.10 | 252.9 | 618.00 | 2.7910 | 365.78 | 2.5632 | | |
| 10.40.0 | 6139.70 | | 628.00 | 2.7980 | 366.18 | 2.5637 | | |
| 10.50.0 | 6139.46 | 252.9 | 638.00 | 2.8048 | 366.42 | 2.5640 | | |
| 11.0.0 | 6139.15 | | 648.00 | 2.8116 | 366.73 | 2.5643 | | |
| 11.10.0 | 6139.16 | 252.9 | 658.00 | 2.8182 | 366.72 | 2.5643 | | |
| 11.20.0 | 6138.83 | | 668.00 | 2.8248 | 367.05 | 2.5647 | | |
| 11.30.0 | 6138.30 | 253.0 | 678.00 | 2.8312 | 367.58 | 2.5654 | | |
| 11.40.0 | 6138.15 | | 688.00 | 2.8376 | 367.73 | 2.5655 | | 31 |
| 11.50.0 | 6137.80 | 253.0 | 698.00 | 2.8439 | 368.08 | 2.5659 | | |
| 12.0.0 | 6137.57 | | 708.00 | 2.8500 | 368.31 | 2.5662 | | |
| 12.2.0 | 6137.55 | 253.0 | 710.00 | 2.8513 | 368.33 | 2.5662 | | |
| 12.4.0 | 6137.45 | | 712.00 | 2.8525 | 368.43 | 2.5664 | | |
| 12.6.0 | 6137.53 | | 714.00 | 2.8537 | 368.35 | 2.5663 | | |
| 12.8.0 | 6137.33 | | 716.00 | 2.8549 | 368.55 | 2.5665 | | |
| 12.10.0 | 6137.18 | | 718.00 | 2.8561 | 368.70 | 2.5667 | | |
| 12.12.0 | 6137.18 | | 720.00 | 2.8573 | 368.70 | 2.5667 | | |
| 12.14.0 | 6137.18 | | 722.00 | 2.8585 | 368.70 | 2.5667 | | |
| 12.16.0 | 6137.10 | | 724.00 | 2.8597 | 368.78 | 2.5668 | | |
| 12.18.0 | 6136.91 | | 726.00 | 2.8609 | 368.97 | 2.5670 | | |
| 12.20.0 | 6136.98 | | 728.00 | 2.8621 | 368.90 | 2.5669 | | |
| 12.22.0 | 6136.91 | | 730.00 | 2.8633 | 368.97 | 2.5670 | | |
| 12.24.0 | 6136.91 | 253.0 | 732.00 | 2.8645 | 368.97 | 2.5670 | | |
| 12.26.0 | 6136.91 | | 734.00 | 2.8657 | 368.97 | 2.5670 | | |
| 12.28.0 | 6136.79 | | 736.00 | 2.8669 | 369.09 | 2.5671 | | |
| 12.30.0 | 6136.73 | | 738.00 | 2.8681 | 369.15 | 2.5672 | | |
| 12.32.0 | 6136.63 | | 740.00 | 2.8692 | 369.25 | 2.5673 | | |
| 12.34.0 | 6136.62 | | 742.00 | 2.8704 | 369.26 | 2.5673 | | |
| 12.36.0 | 6136.44 | | 744.00 | 2.8716 | 369.44 | 2.5675 | | |
| 12.38.0 | 6136.54 | | 746.00 | 2.8727 | 369.34 | 2.5674 | | |
| 12.40.0 | 6136.46 | | 748.00 | 2.8739 | 369.42 | 2.5675 | | |
| 12.42.0 | 6136.52 | | 750.00 | 2.8751 | 369.36 | 2.5674 | | |
| 12.44.0 | 6136.56 | 253.0 | 752.00 | 2.8762 | 369.32 | 2.5674 | | |

FLOPETROL
PRESSURE & TEMPERATURE CALCULATIONS

| TIME HR.MN.SS | PRESS. PSIA | TEMP. DEG.F | DEL.T (MINUTES) | LOG DEL.T | DEL.P PSIA | LOG DEL.P | LOG T+DEL.T DEL.T | REMARKS |
|------------------|----------------|----------------|--------------------|-----------|---------------|-----------|----------------------|---------------|
| 12.46.0 | 6136.31 | | 754.00 | 2.8774 | 369.57 | 2.5677 | | |
| 12.48.0 | 6136.27 | | 756.00 | 2.8785 | 369.61 | 2.5677 | | |
| 12.50.0 | 6136.37 | | 758.00 | 2.8797 | 369.51 | 2.5676 | | |
| 12.52.0 | 6136.34 | | 760.00 | 2.8808 | 369.54 | 2.5677 | | |
| 12.54.0 | 6136.42 | | 762.00 | 2.8820 | 369.46 | 2.5676 | | |
| 12.56.0 | 6136.54 | | 764.00 | 2.8831 | 369.34 | 2.5674 | | |
| 12.58.0 | 6136.23 | | 766.00 | 2.8842 | 369.65 | 2.5678 | | |
| 13.0.0 | 6136.07 | | 768.00 | 2.8854 | 369.81 | 2.5680 | | |
| 13.2.0 | 6136.02 | | 770.00 | 2.8865 | 369.86 | 2.5680 | | |
| 13.4.0 | 6135.97 | 253.2 | 772.00 | 2.8876 | 369.91 | 2.5681 | | |
| 13.6.0 | 6436.07 | | 2.00 | 0.3010 | 300.10 | 2.4773 | 2.5677 | SHUT IN TIME |
| 13.8.0 | 6443.48 | | 4.00 | 0.6021 | 307.51 | 2.4879 | 2.2878 | 13.4.0 |
| 13.10.0 | 6445.29 | | 6.00 | 0.7782 | 309.32 | 2.4904 | 2.1126 | 32 |
| 13.12.0 | 6446.43 | | 8.00 | 0.9031 | 310.46 | 2.4920 | 1.9890 | FLOWING PRES. |
| 13.14.0 | 6447.87 | | 10.00 | 1.0000 | 311.90 | 2.4940 | 1.8932 | 6135.97 |
| 13.16.0 | 6449.35 | | 12.00 | 1.0792 | 313.36 | 2.4961 | 1.8151 | |
| 13.18.0 | 6450.47 | | 14.00 | 1.1461 | 314.50 | 2.4976 | 1.7493 | FLOW TIME T |
| 13.20.0 | 6451.12 | | 16.00 | 1.2041 | 315.15 | 2.4985 | 1.6924 | [HCURS] |
| 13.22.0 | 6451.80 | | 18.00 | 1.2553 | 315.83 | 2.4995 | 1.6424 | 12.52.0 |
| 13.24.0 | 6452.65 | 253.4 | 20.00 | 1.3010 | 316.68 | 2.5006 | 1.5977 | |
| 13.26.0 | 6453.50 | | 22.00 | 1.3424 | 317.53 | 2.5018 | 1.5574 | |
| 13.28.0 | 6454.15 | | 24.00 | 1.3802 | 318.18 | 2.5027 | 1.5207 | |
| 13.30.0 | 6454.57 | | 26.00 | 1.4150 | 318.60 | 2.5032 | 1.4870 | |
| 13.32.0 | 6455.28 | | 28.00 | 1.4472 | 319.31 | 2.5042 | 1.4559 | |
| 13.34.0 | 6456.11 | | 30.00 | 1.4771 | 320.14 | 2.5053 | 1.4271 | |
| 13.36.0 | 6456.59 | | 32.00 | 1.5051 | 320.62 | 2.5060 | 1.4001 | |
| 13.38.0 | 6457.06 | | 34.00 | 1.5315 | 321.09 | 2.5066 | 1.3749 | |
| 13.40.0 | 6457.56 | | 36.00 | 1.5563 | 321.59 | 2.5073 | 1.3511 | |
| 13.42.0 | 6458.15 | | 38.00 | 1.5798 | 322.18 | 2.5081 | 1.3287 | |
| 13.44.0 | 6458.74 | 253.2 | 40.00 | 1.6021 | 322.77 | 2.5089 | 1.3075 | |
| 13.46.0 | 6458.88 | | 42.00 | 1.6232 | 322.91 | 2.5091 | 1.2874 | |
| 13.48.0 | 6458.96 | | 44.00 | 1.6435 | 322.99 | 2.5092 | 1.2682 | |
| 13.50.0 | 6459.54 | | 46.00 | 1.6628 | 323.57 | 2.5100 | 1.2500 | |
| 13.52.0 | 6459.72 | | 48.00 | 1.6812 | 323.75 | 2.5102 | 1.2326 | |
| 13.54.0 | 6460.30 | | 50.00 | 1.6990 | 324.33 | 2.5110 | 1.2159 | |
| 13.56.0 | 6460.59 | | 52.00 | 1.7160 | 324.62 | 2.5114 | 1.1999 | |
| 13.58.0 | 6460.87 | | 54.00 | 1.7324 | 324.90 | 2.5117 | 1.1846 | |
| 14.0.0 | 6461.45 | | 56.00 | 1.7482 | 325.48 | 2.5125 | 1.1698 | |
| 14.2.0 | 6461.78 | | 58.00 | 1.7634 | 325.81 | 2.5130 | 1.1557 | |
| 14.4.0 | 6462.25 | 252.5 | 60.00 | 1.7782 | 326.28 | 2.5136 | 1.1420 | |
| 14.6.0 | 6461.97 | | 62.00 | 1.7924 | 326.00 | 2.5132 | 1.1288 | |
| 14.8.0 | 6462.05 | | 64.00 | 1.8062 | 326.08 | 2.5133 | 1.1160 | |

FLOPETROL
PRESSURE & TEMPERATURE CALCULATIONS

| TIME HR.MN.SS | PRESS. PSIA | TEMP. DEG.F | DEL.T (MINUTES) | LOG DEL.T | DEL.P PSIA | LOG DEL.P | LOG T+DEL.T DEL.T | REMARKS |
|------------------|----------------|----------------|--------------------|-----------|---------------|-----------|----------------------|---------|
| 14.10.0 | 6462.09 | | 66.00 | 1.8195 | 326.12 | 2.5134 | 1.1037 | |
| 14.12.0 | 6462.59 | | 68.00 | 1.8325 | 326.62 | 2.5140 | 1.0918 | |
| 14.14.0 | 6463.39 | | 70.00 | 1.8451 | 327.42 | 2.5151 | 1.0802 | |
| 14.16.0 | 6463.60 | | 72.00 | 1.8573 | 327.63 | 2.5154 | 1.0690 | |
| 14.18.0 | 6463.70 | | 74.00 | 1.8692 | 327.73 | 2.5155 | 1.0581 | |
| 14.20.0 | 6463.91 | | 76.00 | 1.8808 | 327.94 | 2.5158 | 1.0476 | |
| 14.22.0 | 6464.18 | | 78.00 | 1.8921 | 328.21 | 2.5162 | 1.0373 | |
| 14.24.0 | 6464.59 | 251.6 | 80.00 | 1.9031 | 328.62 | 2.5167 | 1.0273 | |
| 14.26.0 | 6464.91 | | 82.00 | 1.9138 | 328.94 | 2.5171 | 1.0176 | |
| 14.28.0 | 6464.70 | | 84.00 | 1.9243 | 328.73 | 2.5168 | 1.0082 | |
| 14.30.0 | 6464.90 | | 86.00 | 1.9345 | 328.93 | 2.5171 | 0.9990 | |
| 14.32.0 | 6465.71 | | 88.00 | 1.9445 | 329.74 | 2.5182 | 0.9900 | |
| 14.34.0 | 6465.81 | | 90.00 | 1.9542 | 329.84 | 2.5183 | 0.9813 | |
| 14.36.0 | 6466.07 | | 92.00 | 1.9638 | 330.10 | 2.5186 | 0.9727 | |
| 14.38.0 | 6466.15 | | 94.00 | 1.9731 | 330.18 | 2.5188 | 0.9644 | |
| 14.40.0 | 6466.30 | | 96.00 | 1.9823 | 330.33 | 2.5189 | 0.9562 | |
| 14.42.0 | 6465.93 | | 98.00 | 1.9912 | 329.96 | 2.5185 | 0.9483 | |
| 14.44.0 | 6466.60 | 251.1 | 100.00 | 2.0000 | 330.63 | 2.5193 | 0.9405 | |
| 14.46.0 | 6466.46 | | 102.00 | 2.0086 | 330.49 | 2.5192 | 0.9329 | |
| 14.48.0 | 6467.13 | | 104.00 | 2.0170 | 331.16 | 2.5200 | 0.9255 | |
| 14.50.0 | 6467.02 | | 106.00 | 2.0253 | 331.05 | 2.5199 | 0.9182 | |
| 14.52.0 | 6467.01 | | 108.00 | 2.0334 | 331.04 | 2.5199 | 0.9111 | |
| 14.54.0 | 6467.43 | | 110.00 | 2.0414 | 331.46 | 2.5204 | 0.9041 | |
| 14.56.0 | 6467.40 | | 112.00 | 2.0492 | 331.43 | 2.5204 | 0.8972 | |
| 14.58.0 | 6467.72 | | 114.00 | 2.0569 | 331.75 | 2.5208 | 0.8905 | |
| 15.0.0 | 6467.94 | | 116.00 | 2.0645 | 331.97 | 2.5211 | 0.8840 | |
| 15.2.0 | 6468.05 | | 118.00 | 2.0719 | 332.08 | 2.5212 | 0.8775 | |
| 15.4.0 | 6468.38 | 250.5 | 120.00 | 2.0792 | 332.41 | 2.5217 | 0.8712 | |
| 15.6.0 | 6468.70 | | 122.00 | 2.0864 | 332.73 | 2.5221 | 0.8650 | |
| 15.8.0 | 6468.85 | | 124.00 | 2.0934 | 332.88 | 2.5223 | 0.8589 | |
| 15.10.0 | 6468.84 | | 126.00 | 2.1004 | 332.87 | 2.5223 | 0.8529 | |
| 15.12.0 | 6469.06 | | 128.00 | 2.1072 | 333.09 | 2.5226 | 0.8470 | |
| 15.14.0 | 6469.30 | | 130.00 | 2.1139 | 333.33 | 2.5229 | 0.8413 | |
| 15.16.0 | 6469.47 | | 132.00 | 2.1206 | 333.50 | 2.5231 | 0.8356 | |
| 15.18.0 | 6469.21 | | 134.00 | 2.1271 | 333.24 | 2.5228 | 0.8300 | |
| 15.20.0 | 6469.33 | | 136.00 | 2.1335 | 333.36 | 2.5229 | 0.8245 | |
| 15.22.0 | 6469.40 | | 138.00 | 2.1399 | 333.43 | 2.5230 | 0.8192 | |
| 15.24.0 | 6469.78 | 250.2 | 140.00 | 2.1461 | 333.81 | 2.5235 | 0.8139 | |
| 15.26.0 | 6469.99 | | 142.00 | 2.1523 | 334.02 | 2.5236 | 0.8087 | |
| 15.28.0 | 6470.00 | | 144.00 | 2.1584 | 334.03 | 2.5236 | 0.8035 | |
| 15.30.0 | 6470.13 | | 146.00 | 2.1644 | 334.16 | 2.5240 | 0.7985 | |
| 15.32.0 | 6470.08 | | 148.00 | 2.1703 | 334.11 | 2.5239 | 0.7935 | |

FLCPTROL
PRESSURE & TEMPERATURE CALCULATIONS

| TIME | PRESS. | TEMP. | DEL.T | LOG DEL.T | DEL.P | LOG DEL.P | LOG T+DLL.T | REMARKS |
|----------|---------|-------|-----------|-----------|--------|-----------|-------------|---------|
| HR.MN.SS | PSIA | DEG.F | (MINUTES) | | PSIA | | DEL.T | |
| 15.34.0 | 6470.50 | | 150.00 | 2.1761 | 334.53 | 2.5244 | 0.7386 | |
| 15.36.0 | 6470.59 | | 152.00 | 2.1818 | 334.62 | 2.5246 | 0.7638 | |
| 15.38.0 | 6470.48 | | 154.00 | 2.1875 | 334.51 | 2.5244 | 0.7791 | |
| 15.40.0 | 6470.86 | | 156.00 | 2.1931 | 334.89 | 2.5249 | 0.7744 | |
| 15.42.0 | 6471.01 | | 158.00 | 2.1987 | 335.04 | 2.5251 | 0.7698 | |
| 15.44.0 | 6471.16 | 249.8 | 160.00 | 2.2041 | 335.21 | 2.5253 | 0.7653 | |
| 15.46.0 | 6471.36 | | 162.00 | 2.2095 | 335.39 | 2.5256 | 0.7606 | |
| 15.48.0 | 6471.36 | | 164.00 | 2.2148 | 335.39 | 2.5256 | 0.7564 | |
| 15.50.0 | 6471.47 | | 166.00 | 2.2201 | 335.50 | 2.5257 | 0.7521 | |
| 15.52.0 | 6471.52 | | 168.00 | 2.2253 | 335.55 | 2.5258 | 0.7478 | |
| 15.54.0 | 6471.84 | | 170.00 | 2.2304 | 335.87 | 2.5262 | 0.7436 | |
| 15.56.0 | 6471.83 | | 172.00 | 2.2355 | 335.86 | 2.5262 | 0.7394 | |
| 15.58.0 | 6472.10 | | 174.00 | 2.2405 | 336.13 | 2.5265 | 0.7353 | |
| 16.0.0 | 6472.15 | | 176.00 | 2.2455 | 336.18 | 2.5266 | 0.7313 | |
| 16.10.0 | 6472.51 | 249.6 | 186.00 | 2.2695 | 336.54 | 2.5270 | 0.7119 | |
| 16.20.0 | 6473.26 | | 196.00 | 2.2923 | 337.29 | 2.5280 | 0.6936 | 34 |
| 16.30.0 | 6473.72 | 249.3 | 206.00 | 2.3139 | 337.75 | 2.5286 | 0.6765 | |
| 16.40.0 | 6474.23 | | 216.00 | 2.3345 | 338.26 | 2.5293 | 0.6603 | |
| 16.50.0 | 6474.42 | 249.1 | 226.00 | 2.3541 | 338.45 | 2.5295 | 0.6450 | |
| 17.0.0 | 6475.12 | | 236.00 | 2.3729 | 339.15 | 2.5304 | 0.6305 | |
| 17.10.0 | 6475.49 | 248.9 | 246.00 | 2.3909 | 339.52 | 2.5309 | 0.6166 | |
| 17.20.0 | 6476.21 | | 256.00 | 2.4082 | 340.24 | 2.5318 | 0.6038 | |
| 17.30.0 | 6476.35 | 248.7 | 266.00 | 2.4249 | 340.38 | 2.5320 | 0.5913 | |
| 17.40.0 | 6476.79 | | 276.00 | 2.4409 | 340.82 | 2.5325 | 0.5795 | |
| 17.50.0 | 6477.00 | 248.5 | 286.00 | 2.4564 | 341.03 | 2.5328 | 0.5681 | 35 |
| 18.0.0 | 6477.69 | | 296.00 | 2.4713 | 341.72 | 2.5337 | 0.5573 | |
| 18.10.0 | 6477.91 | 248.5 | 306.00 | 2.4857 | 341.94 | 2.5339 | 0.5469 | |
| 18.20.0 | 6478.27 | | 316.00 | 2.4997 | 342.30 | 2.5344 | 0.5369 | |
| 18.30.0 | 6478.85 | 248.4 | 326.00 | 2.5132 | 342.88 | 2.5351 | 0.5274 | |
| 18.40.0 | 6479.05 | | 336.00 | 2.5263 | 343.08 | 2.5354 | 0.5182 | |
| 18.50.0 | 6479.43 | 248.2 | 346.00 | 2.5391 | 343.46 | 2.5359 | 0.5094 | |
| 19.0.0 | 6479.86 | | 356.00 | 2.5514 | 343.89 | 2.5364 | 0.5009 | |
| 19.10.0 | 6480.10 | 248.2 | 366.00 | 2.5635 | 344.13 | 2.5367 | 0.4927 | |
| 19.20.0 | 6480.54 | | 376.00 | 2.5752 | 344.57 | 2.5373 | 0.4846 | 36 |
| 19.30.0 | 6480.93 | 248.0 | 386.00 | 2.5866 | 344.96 | 2.5378 | 0.4771 | |
| 19.40.0 | 6481.33 | | 396.00 | 2.5977 | 345.36 | 2.5383 | 0.4697 | |
| 19.50.0 | 6481.62 | 248.0 | 406.00 | 2.6085 | 345.65 | 2.5386 | 0.4626 | |
| 20.0.0 | 6481.87 | | 416.00 | 2.6191 | 345.90 | 2.5390 | 0.4557 | |
| 20.10.0 | 6482.13 | 248.0 | 426.00 | 2.6294 | 346.16 | 2.5393 | 0.4490 | |
| 20.20.0 | 6482.45 | | 436.00 | 2.6395 | 346.48 | 2.5397 | 0.4426 | |
| 20.30.0 | 6482.67 | 247.8 | 446.00 | 2.6493 | 346.70 | 2.5400 | 0.4363 | |
| 20.40.0 | 6482.91 | | 456.00 | 2.6590 | 346.94 | 2.5403 | 0.4302 | |

FLOPETROL
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 2
PAGE 15

| TIME HR. MN. SS. | PRESS. PSIA | TEMP. DEG. F. | DEL. T (MINUTES) | LOG DEL. T | DEL. P PSIA | LOG DEL. P | LOG T+DEL. T DEL. T | REMARKS |
|---------------------|----------------|------------------|---------------------|------------|----------------|------------|------------------------|---------------|
| 20.50.0 | 6483.25 | 247.6 | 466.00 | 2.6684 | 347.28 | 2.5407 | 0.4243 | 37 |
| 21. 0. 0 | 6483.47 | | 476.00 | 2.6776 | 347.50 | 2.5410 | 0.4186 | |
| 21.10. 0 | 6483.81 | 247.6 | 486.00 | 2.6866 | 347.84 | 2.5414 | 0.4130 | |
| 21.20. 0 | 6484.12 | | 496.00 | 2.6955 | 348.15 | 2.5418 | 0.4076 | |
| 21.30. 0 | 6484.33 | 247.6 | 506.00 | 2.7042 | 348.36 | 2.5420 | 0.4024 | |
| 21.40. 0 | 6484.53 | | 516.00 | 2.7126 | 348.56 | 2.5423 | 0.3973 | |
| 21.50. 0 | 6484.87 | 247.6 | 526.00 | 2.7210 | 348.90 | 2.5427 | 0.3923 | |
| 22. 0. 0 | 6485.03 | | 536.00 | 2.7292 | 349.06 | 2.5429 | 0.3874 | |
| 22.10. 0 | 6485.40 | 247.5 | 546.00 | 2.7372 | 349.43 | 2.5434 | 0.3827 | |
| 22.20. 0 | 6485.67 | | 556.00 | 2.7451 | 349.70 | 2.5437 | 0.3781 | 38 |
| 22.30. 0 | 6485.90 | 247.5 | 566.00 | 2.7528 | 349.93 | 2.5440 | 0.3736 | |
| 22.40. 0 | 6486.11 | | 576.00 | 2.7604 | 350.14 | 2.5442 | 0.3693 | |
| 22.50. 0 | 6486.36 | 247.5 | 586.00 | 2.7679 | 350.39 | 2.5446 | 0.3650 | |
| 23. 0. 0 | 6486.63 | | 596.00 | 2.7752 | 350.66 | 2.5449 | 0.3608 | |
| 23.10. 0 | 6486.79 | 247.5 | 606.00 | 2.7825 | 350.82 | 2.5451 | 0.3568 | |
| 23.20. 0 | 6487.12 | | 616.00 | 2.7896 | 351.15 | 2.5455 | 0.3526 | |
| 23.30. 0 | 6487.34 | 247.5 | 626.00 | 2.7966 | 351.37 | 2.5458 | 0.3489 | |
| 23.40. 0 | 6487.56 | | 636.00 | 2.8035 | 351.59 | 2.5460 | 0.3451 | |
| 23.50. 0 | 6487.67 | 247.3 | 646.00 | 2.8102 | 351.70 | 2.5462 | 0.3414 | 39 |
| 24. 0. 0 | 6487.95 | | 656.00 | 2.8169 | 351.98 | 2.5465 | 0.3378 | 25. Dec. 1981 |
| 0.10. 0 | 6488.16 | 247.3 | 666.00 | 2.8235 | 352.19 | 2.5468 | 0.3343 | |
| 0.20. 0 | 6488.33 | | 676.00 | 2.8299 | 352.36 | 2.5470 | 0.3308 | |
| 0.30. 0 | 6488.55 | 247.3 | 686.00 | 2.8363 | 352.58 | 2.5473 | 0.3274 | |
| 0.40. 0 | 6488.78 | | 696.00 | 2.8426 | 352.81 | 2.5475 | 0.3241 | |
| 0.50. 0 | 6488.83 | 247.3 | 706.00 | 2.8488 | 352.86 | 2.5476 | 0.3209 | |
| 1. 0. 0 | 6488.99 | | 716.00 | 2.8549 | 353.02 | 2.5478 | 0.3177 | |
| 1.10. 0 | 6489.18 | 247.1 | 726.00 | 2.8609 | 353.21 | 2.5480 | 0.3146 | |
| 1.20. 0 | 6489.36 | | 736.00 | 2.8669 | 353.39 | 2.5483 | 0.3115 | 40 |
| 1.30. 0 | 6489.65 | 247.1 | 746.00 | 2.8727 | 353.68 | 2.5486 | 0.3085 | |
| 1.40. 0 | 6489.82 | | 756.00 | 2.8785 | 353.85 | 2.5488 | 0.3056 | |
| 1.50. 0 | 6490.02 | 247.1 | 766.00 | 2.8842 | 354.05 | 2.5491 | 0.3027 | |
| 2. 0. 0 | 6490.17 | | 776.00 | 2.8899 | 354.20 | 2.5492 | 0.2999 | |
| 2.10. 0 | 6490.31 | 247.1 | 786.00 | 2.8954 | 354.34 | 2.5494 | 0.2971 | |
| 2.20. 0 | 6490.64 | | 796.00 | 2.9009 | 354.67 | 2.5498 | 0.2944 | |
| 2.30. 0 | 6490.73 | 247.1 | 806.00 | 2.9063 | 354.76 | 2.5499 | 0.2918 | |
| 2.40. 0 | 6490.95 | | 816.00 | 2.9117 | 354.96 | 2.5502 | 0.2892 | |
| 2.50. 0 | 6491.04 | 247.1 | 826.00 | 2.9170 | 355.07 | 2.5503 | 0.2866 | 41 |
| 3. 0. 0 | 6491.27 | | 836.00 | 2.9222 | 355.30 | 2.5506 | 0.2841 | |
| 3.10. 0 | 6491.45 | 247.1 | 846.00 | 2.9274 | 355.46 | 2.5508 | 0.2816 | |
| 3.20. 0 | 6491.60 | | 856.00 | 2.9325 | 355.63 | 2.5510 | 0.2792 | |
| 3.30. 0 | 6491.76 | 247.1 | 866.00 | 2.9375 | 355.79 | 2.5512 | 0.2768 | |
| 3.40. 0 | 6491.91 | | 876.00 | 2.9425 | 355.94 | 2.5514 | 0.2745 | |

FLOPETROL
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 2
PAGE 16

| TIME | PRESS. | TEMP. | DEL.T | LOG DEL.T | DEL.P | LOG DEL.P | LOG T+DEL.T | REMARKS |
|-----------|----------|--------|-----------|-----------|--------|-----------|-------------|-------------------|
| HR.MN.SS. | PSIA | DEG.F. | (MINUTES) | | PSIA | | DEL.T | |
| 3.50.0 | 6492.05 | 247.1 | 886.00 | 2.9474 | 356.08 | 2.5515 | 0.2722 | |
| 4.0.0 | 6492.18 | | 896.00 | 2.9523 | 356.21 | 2.5517 | 0.2699 | |
| 4.10.0 | 6492.44 | 247.1 | 906.00 | 2.9571 | 356.47 | 2.5520 | 0.2677 | |
| 4.20.0 | 6492.53 | | 916.00 | 2.9619 | 356.56 | 2.5521 | 0.2655 | 42 |
| 4.30.0 | 6492.77 | 247.1 | 926.00 | 2.9666 | 356.60 | 2.5524 | 0.2633 | |
| 4.40.0 | 6492.84 | | 936.00 | 2.9713 | 356.87 | 2.5525 | 0.2612 | |
| 4.50.0 | 6493.00 | 247.1 | 946.00 | 2.9759 | 357.03 | 2.5527 | 0.2591 | |
| 5.0.0 | 6493.17 | | 956.00 | 2.9805 | 357.20 | 2.5529 | 0.2571 | |
| 5.10.0 | 6493.40 | 247.1 | 966.00 | 2.9850 | 357.43 | 2.5532 | 0.2551 | |
| 5.20.0 | 6493.52 | | 976.00 | 2.9894 | 357.55 | 2.5533 | 0.2531 | |
| 5.30.0 | 6493.60 | 246.9 | 986.00 | 2.9939 | 357.63 | 2.5534 | 0.2511 | |
| 5.40.0 | 6493.75 | | 996.00 | 2.9983 | 357.78 | 2.5536 | 0.2492 | |
| 5.50.0 | 6493.87 | 246.9 | 1006.00 | 3.0026 | 357.90 | 2.5538 | 0.2473 | 43 |
| 6.0.0 | 6494.00 | | 1016.00 | 3.0069 | 358.03 | 2.5539 | 0.2455 | |
| 6.10.0 | 6494.18 | 246.9 | 1026.00 | 3.0111 | 358.21 | 2.5541 | 0.2436 | |
| 6.20.0 | 6494.35 | | 1036.00 | 3.0154 | 358.38 | 2.5543 | 0.2418 | Start Bullheading |
| 6.30.0 | 6494.55 | 246.9 | 1046.00 | 3.0195 | 358.58 | 2.5546 | 0.2401 | |
| 6.40.0 | 6494.64 | | 1056.00 | 3.0237 | 358.67 | 2.5547 | 0.2383 | |
| 6.50.0 | 6494.80 | 246.9 | 1066.00 | 3.0278 | 358.63 | 2.5549 | 0.2366 | |
| 7.0.0 | 6494.95 | | 1076.00 | 3.0318 | 358.98 | 2.5551 | 0.2349 | |
| 7.10.0 | 6495.09 | 246.9 | 1086.00 | 3.0358 | 359.12 | 2.5552 | 0.2332 | |
| 7.20.0 | 6495.11 | | 1096.00 | 3.0398 | 359.14 | 2.5553 | 0.2316 | 44 |
| 7.30.0 | 6495.27 | 246.9 | 1106.00 | 3.0438 | 359.30 | 2.5555 | 0.2299 | |
| 7.40.0 | 6494.76 | | 1116.00 | 3.0477 | 358.79 | 2.5548 | 0.2283 | |
| 7.50.0 | 6495.01 | 246.9 | 1126.00 | 3.0515 | 359.04 | 2.5551 | 0.2266 | |
| 8.0.0 | 6495.17 | | 1136.00 | 3.0554 | 359.20 | 2.5553 | 0.2252 | |
| 8.10.0 | 6495.36 | 246.9 | 1146.00 | 3.0592 | 359.39 | 2.5556 | 0.2237 | |
| 8.20.0 | 6495.63 | | 1156.00 | 3.0630 | 359.66 | 2.5559 | 0.2221 | |
| 8.30.0 | 6495.85 | 246.9 | 1166.00 | 3.0667 | 359.88 | 2.5562 | 0.2207 | |
| 8.40.0 | 6495.77 | | 1176.00 | 3.0704 | 359.60 | 2.5561 | 0.2192 | |
| 8.50.0 | 6495.95 | 246.9 | 1186.00 | 3.0741 | 359.98 | 2.5563 | 0.2177 | 45 |
| 9.0.0 | 6496.00 | | 1196.00 | 3.0777 | 360.03 | 2.5563 | 0.2163 | |
| 9.2.0 | 6496.02 | 246.9 | 1198.00 | 3.0785 | 360.05 | 2.5564 | 0.2160 | |
| 9.4.0 | 6496.04 | | 1200.00 | 3.0792 | 360.07 | 2.5564 | 0.2157 | |
| 9.6.0 | 6496.05 | | 1202.00 | 3.0799 | 360.08 | 2.5564 | 0.2154 | |
| 9.8.0 | 6496.11 | | 1204.00 | 3.0806 | 360.14 | 2.5565 | 0.2152 | |
| 9.10.0 | 6512.31 | | | | | | | |
| 9.12.0 | 6680.25 | | | | | | | |
| 9.14.0 | 8170.07 | | | | | | | |
| 9.16.0 | 9033.52 | | | | | | | |
| 9.18.0 | 9938.07 | | | | | | | |
| 9.20.0 | 10693.90 | | | | | | | |

FLOPETROL
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 2
PAGE 17

| TIME | PRESS. | TEMP. | DEL.T | LOG DEL.T | DEL.P | LOG DEL.P | LOG T+DEL.T | REMARKS |
|--------------|----------|--------|-----------|-----------|-------|-----------|--------------|---------|
| HR. MIN. SS. | PSIA | DEG.F. | (MINUTES) | | PSIA | | <u>DEL.T</u> | |
| 9.22.0 | 11116.40 | | | | | | | |
| 9.24.0 | 11299.67 | 247.1 | | | | | | |
| 9.26.0 | 11460.97 | | | | | | | |
| 9.28.0 | 11170.86 | | | | | | | |
| 9.30.0 | 11095.02 | | | | | | | |
| 9.32.0 | 10838.53 | | | | | | | |
| 9.34.0 | 10549.04 | | | | | | | |
| 9.36.0 | 10643.60 | | | | | | | |
| 9.38.0 | 10330.67 | | | | | | | |
| 9.40.0 | 10446.87 | | | | | | | |
| 9.42.0 | 10569.70 | | | | | | | |
| 9.44.0 | 9999.77 | 244.9 | | | | | | |
| 9.46.0 | 9001.75 | | | | | | | |
| 9.48.0 | 8199.15 | | | | | | | |
| 9.50.0 | 7525.51 | | | | | | | |
| 9.52.0 | 7433.63 | | | | | | | |
| 9.54.0 | 7541.35 | | | | | | | |
| 9.56.0 | 7561.43 | | | | | | | |
| 9.58.0 | 7209.20 | | | | | | | |
| 10.0.0 | 6866.69 | | | | | | | |
| 10.2.0 | 6730.13 | | | | | | | |
| 10.4.0 | 6670.68 | 237.0 | | | | | | |
| 10.6.0 | 6643.56 | | | | | | | |
| 10.8.0 | 6622.45 | | | | | | | |
| 10.10.0 | 6606.81 | | | | | | | |
| 10.12.0 | 6588.41 | | | | | | | |
| 10.14.0 | 6575.23 | | | | | | | |
| 10.16.0 | 6569.97 | | | | | | | |
| 10.18.0 | 6565.09 | | | | | | | |
| 10.20.0 | 6561.08 | | | | | | | |
| 10.22.0 | 6555.64 | | | | | | | |
| 10.24.0 | 6549.23 | 234.7 | | | | | | |
| 10.26.0 | 6547.55 | | | | | | | |
| 10.28.0 | 6546.08 | | | | | | | |
| 10.30.0 | 6543.65 | | | | | | | |
| 10.32.0 | 6542.63 | | | | | | | |
| 10.34.0 | 6539.86 | | | | | | | |
| 10.36.0 | 6538.80 | | | | | | | |
| 10.38.0 | 6537.40 | | | | | | | |
| 10.40.0 | 6535.62 | | | | | | | |
| 10.42.0 | 6535.47 | | | | | | | |
| 10.44.0 | 6536.74 | 235.9 | | | | | | |

End of print out, due to gauge damaged during bullheading. The pressure recordings after bullheading are not correct and because of that, not printed.

- SEQUENCE OF EVENTS -

ALL DEPTHS RKB

| DATE | TIME | OPERATION |
|----------|----------|--|
| 22DEC-81 | 18.42 | Battery conncted to S.S.D.R. No. 81057 |
| | 18.54 | First transfer verified. |
| | | Start R.I.H. |
| 23DEC-81 | 17.33 | Packer set at 3658 m. Gauge No. 81057 set at 3672.56 m. |
| | 21.50 | Open APR-N |
| | 22.00 | Try to open drill pipe tester valve. |
| | 22.08 | Drill pipe tester valve thought to be open. |
| | 22.11 | Pressure bled off, kill valve closed. Drill pipe tester valve failed to open. |
| | 22.25 | Kill valve open. Attempt to open drill pipe tester valve. |
| | 22.36 | Turning string clockwise. |
| | 22.48 | Bled of pressure in string. |
| | 22.50 | Kill valve closed. |
| | 22.57 | Open well for initial flow. |
| | 23.01 | Shut in well at APR-N and choke manifold. |
| | 24DEC-81 | 00.05 |
| 00.10 | | Open well on ²⁰ / ₆₄ " ADJ. choke to gas flare. |
| 00.48 | | Gas to surface. Choke increased slowly to ⁴⁸ / ₆₄ " ADJ. choke |
| 24DEC-81 | 01.30 | Change choke to ⁵⁶ / ₆₄ " ADJ. |
| | 03.38 | Change choke to ⁵⁶ / ₆₄ " Pos. ADJ. choke plugging. |
| | 13.03 | Shut in well at APR-N & choke manifold for main build up. |

