# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 2691
CALIBRATION DATE: 28-Mar-03

SBE19 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPRATURE SCALE

ITS-90 COEFFICIENTS

g = 4.26211268e-003
h = 6.15957189e-004
i = 9.88302967e-006
j = -6.38064966e-007
f0 = 1000.0

ITS-68 COEFFICIENTS

a = 3.64763349e-003
b = 5.94058978e-004
c = 1.18523256e-005
d = -6.37237185e-007
f0 = 2759.960

| BATH TEMP (ITS-90) | INSTRUMENT FREQ (Hz) | INST TEMP (ITS-90) | RESIDUAL (ITS-90) |
|---|---|---|---|
| 0.9999 | 2759.960 | 1.0001 | 0.00021 |
| 4.5000 | 2982.451 | 4.4996 | -0.00041 |
| 15.0000 | 3726.424 | 15.0007 | 0.00069 |
| 18.5000 | 4000.923 | 18.4995 | -0.00048 |
| 24.0000 | 4460.666 | 24.0000 | -0.00002 |
| 29.0000 | 4909.468 | 28.9999 | -0.00007 |
| 32.4999 | 5241.685 | 32.5000 | 0.00009 |

Temperature ITS-90 = $1/\{g + h[ln(f_0/f)] + i[ln^2(f_0/f)] + j[ln^3(f_0/f)]\} - 273.15$ (°C)

Temperature ITS-68 = $1/\{a + b[ln(f_0/f)] + c[ln^2(f_0/f)] + d[ln^3(f_0/f)]\} - 273.15$ (°C)

Following the recommendation of JPOTS: $T_{68}$ is assumed to be 1.00024 * $T_{90}$ (-2 to 35 °C)

Residual = instrument temperature - bath temperature