# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 4481
CALIBRATION DATE: 12-Jan-10

SBE3 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

ITS-90 COEFFICIENTS

g = 4.33492523e-003
h = 6.37136216e-004
i = 2.07661802e-005
j = 1.71173431e-006
f0 = 1000.0

IPTS-68 COEFFICIENTS

a = 3.68121439e-003
b = 5.99045282e-004
c = 1.53530547e-005
d = 1.71315005e-006
f0 = 2884.663

| BATH TEMP (ITS-90) | INSTRUMENT FREQ (Hz) | INST TEMP (ITS-90) | RESIDUAL (ITS-90) |
|---|---|---|---|
| -1.5002 | 2884.663 | -1.5002 | 0.00005 |
| 0.9998 | 3051.207 | 0.9997 | -0.00007 |
| 4.4998 | 3295.912 | 4.4998 | -0.00000 |
| 7.9998 | 3554.413 | 7.9998 | 0.00001 |
| 11.4998 | 3827.089 | 11.4998 | -0.00001 |
| 14.9998 | 4114.318 | 14.9998 | 0.00004 |
| 18.4998 | 4416.448 | 18.4998 | 0.00002 |
| 21.9998 | 4733.832 | 21.9998 | -0.00003 |
| 25.4998 | 5066.817 | 25.4998 | -0.00001 |
| 28.9998 | 5415.719 | 28.9998 | -0.00003 |
| 32.4998 | 5780.866 | 32.4998 | 0.00003 |

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 IPTS-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