

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1242  
CALIBRATION DATE: 15-Nov-06

SBE 37 CONDUCTIVITY CALIBRATION DATA  
PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

## COEFFICIENTS:

g = -1.052734e+000  
h = 1.538821e-001  
i = -8.316298e-005  
j = 3.215063e-005

CPcor = -9.5700e-008  
CTcor = 3.2500e-006  
WBOTC = -2.8400e-005

| BATH TEMP<br>(ITS-90) | BATH SAL<br>(PSU) | BATH COND<br>(Siemens/m) | INST FREQ<br>(Hz) | INST COND<br>(Siemens/m) | RESIDUAL<br>(Siemens/m) |
|-----------------------|-------------------|--------------------------|-------------------|--------------------------|-------------------------|
| 22.0000               | 0.0000            | 0.00000                  | 2616.36           | 0.00000                  | 0.00000                 |
| 1.0000                | 34.8413           | 2.97790                  | 5111.11           | 2.97791                  | 0.00001                 |
| 4.5000                | 34.8211           | 3.28513                  | 5301.78           | 3.28512                  | -0.00001                |
| 15.0000               | 34.7775           | 4.26736                  | 5869.41           | 4.26735                  | -0.00000                |
| 18.5000               | 34.7682           | 4.61268                  | 6056.14           | 4.61268                  | -0.00000                |
| 23.9999               | 34.7577           | 5.17086                  | 6346.15           | 5.17087                  | 0.00001                 |
| 29.0000               | 34.7509           | 5.69281                  | 6605.58           | 5.69281                  | 0.00000                 |
| 32.5000               | 34.7458           | 6.06509                  | 6784.42           | 6.06508                  | -0.00000                |

$$f = \text{INST FREQ} * \sqrt{1.0 + \text{WBOTC} * t} / 1000.0$$

$$\text{Conductivity} = (g + hf^2 + if^3 + jf^4) / (1 + \delta t + \epsilon p) \text{ Siemens/meter}$$

$$t = \text{temperature}[^{\circ}\text{C}]; p = \text{pressure}[\text{decibars}]; \delta = \text{CTcor}; \epsilon = \text{CPcor};$$

$$\text{Residual} = \text{instrument conductivity} - \text{bath conductivity}$$

