

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 0047  
CALIBRATION DATE: 28-Jan-07

90340 CONDUCTIVITY CALIBRATION DATA  
PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

COEFFICIENTS:

g = -1.010490e+000  
h = 1.473580e-001  
i = -1.486247e-004  
j = 3.252169e-005

CPcor = -9.5700e-008  
CTcor = 3.2500e-006  
WBOTC = 2.0353e-006

| 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                  | 2620.08           | 0.00000                  | 0.00000                 |
| 1.0000                | 34.8267           | 2.97677                  | 5199.88           | 2.97677                  | 0.00000                 |
| 4.5000                | 34.8066           | 3.28390                  | 5395.73           | 3.28389                  | -0.00001                |
| 15.0000               | 34.7635           | 4.26582                  | 5978.29           | 4.26582                  | 0.00000                 |
| 18.5000               | 34.7541           | 4.61101                  | 6169.78           | 4.61101                  | 0.00001                 |
| 24.0000               | 34.7436           | 5.16901                  | 6467.05           | 5.16901                  | 0.00000                 |
| 29.0000               | 34.7373           | 5.69084                  | 6732.88           | 5.69082                  | -0.00002                |
| 32.5000               | 34.7328           | 6.06308                  | 6916.11           | 6.06309                  | 0.00001                 |

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

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

t = temperature[°C]; p = pressure[decibars];  $\delta$  = CTcor;  $\epsilon$  = CPcor;

Residual = instrument conductivity - bath conductivity

Date, Slope Correction

