

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 0813  
 CALIBRATION DATE: 08-Dec-09

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

## COEFFICIENTS:

|                    |                      |
|--------------------|----------------------|
| g = -1.035464e+000 | CPcor = -9.5700e-008 |
| h = 1.501638e-001  | CTcor = 3.2500e-006  |
| i = -3.391245e-004 | WBOTC = -7.1758e-005 |
| j = 5.024059e-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                  | 2632.79           | 0.00000                  | 0.00000                 |
| 1.0001                | 34.7615           | 2.97174                  | 5173.06           | 2.97173                  | -0.00000                |
| 4.5000                | 34.7416           | 3.27837                  | 5367.38           | 3.27838                  | 0.00001                 |
| 14.9999               | 34.6988           | 4.25871                  | 5945.76           | 4.25870                  | -0.00001                |
| 18.5000               | 34.6891           | 4.60331                  | 6135.98           | 4.60330                  | -0.00002                |
| 24.0000               | 34.6778           | 5.16030                  | 6431.39           | 5.16031                  | 0.00001                 |
| 29.0000               | 34.6706           | 5.68113                  | 6695.65           | 5.68117                  | 0.00004                 |
| 32.4999               | 34.6647           | 6.05253                  | 6877.73           | 6.05250                  | -0.00002                |

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

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

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

Residual = instrument conductivity - bath conductivity

