

Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 0454
CALIBRATION DATE: 28-Apr-17

SBE 45 CONDUCTIVITY CALIBRATION DATA
PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

COEFFICIENTS:

g = -9.893178e-001
h = 1.325500e-001
i = -3.664528e-004
j = 4.389518e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 2.4343e-006

| BATH TEMP (° C) | BATH SAL (PSU) | BATH COND (S/m) | INSTRUMENT OUTPUT (Hz) | INSTRUMENT COND (S/m) | RESIDUAL (S/m) |
|--------------------|-------------------|--------------------|---------------------------|--------------------------|-------------------|
| 22.0000 | 0.0000 | 0.00000 | 2738.89 | 0.00000 | 0.00000 |
| 1.0000 | 34.7036 | 2.96725 | 5477.75 | 2.96724 | -0.00001 |
| 4.4999 | 34.6841 | 3.27347 | 5685.24 | 3.27348 | 0.00001 |
| 15.0000 | 34.6421 | 4.25250 | 6302.03 | 4.25249 | -0.00001 |
| 18.5000 | 34.6333 | 4.59670 | 6504.70 | 4.59672 | 0.00002 |
| 24.0000 | 34.6237 | 5.15313 | 6819.20 | 5.15313 | -0.00001 |
| 29.0000 | 34.6181 | 5.67350 | 7100.33 | 5.67348 | -0.00001 |
| 32.5000 | 34.6145 | 6.04477 | 7294.08 | 6.04478 | 0.00001 |

$$f = \text{Instrument Output(Hz)} * \text{sqrt}(1.0 + \text{WBOTC} * t) / 1000.0$$

t = temperature (°C); p = pressure (decibars); δ = CTcor; ϵ = CPcor;

$$\text{Conductivity (S/m)} = (g + h * f^2 + i * f^3 + j * f^4) / 10 (1 + \delta * t + \epsilon * p)$$

$$\text{Residual (Siemens/meter)} = \text{instrument conductivity} - \text{bath conductivity}$$

