

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 0256  
CALIBRATION DATE: 21-Sep-11

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

**COEFFICIENTS:**

g = -9.801905e-001	CPcor = -9.5700e-008
h = 1.389753e-001	CTcor = 3.2500e-006
i = -3.290872e-004	WBOTC = 8.1422e-007
j = 4.534825e-005	

BATH TEMP (ITS-90)	BATH SAL (PSU)	BATH COND (Siemens/m)	INST FREQ (Hz)	INST COND (Siemens/m)	RESIDUAL (Siemens/m)
22.0000	0.0000	0.00000	2661.04	0.00000	0.00000
1.0000	35.0024	2.99035	5354.01	2.99035	-0.00000
4.4999	34.9824	3.29884	5557.44	3.29883	-0.00001
15.0000	34.9386	4.28502	6162.05	4.28506	0.00004
18.5000	34.9287	4.63167	6360.57	4.63166	-0.00001
24.0000	34.9167	5.19191	6668.61	5.19191	0.00000
29.0000	34.9088	5.71576	6943.88	5.71571	-0.00005
32.5000	34.8999	6.08892	7133.31	6.08895	0.00003

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

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

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

Residual = instrument conductivity - bath conductivity

