

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 1685  
CALIBRATION DATE: 17-Jan-15

SBE 43 OXYGEN CALIBRATION DATA

COEFFICIENTS:  
Soc = 0.4625  
Voffset = -0.5230  
Tau20 = 1.17

A = -3.5651e-003  
B = 1.3368e-004  
C = -2.0281e-006  
E nominal = 0.036

NOMINAL DYNAMIC COEFFICIENTS  
D1 = 1.92634e-4 H1 = -3.300000e-2  
D2 = -4.64803e-2 H2 = 5.00000e+3  
H3 = 1.45000e+3

BATH OX (ml/l)	BATH TEMP (ITS-90)	BATH SAL (PSU)	INSTRUMENT OUTPUT (VOLTS)	INSTRUMENT OXYGEN (ml/l)	RESIDUAL (ml/l)
1.28	12.00	0.00	0.900	1.28	-0.00
1.29	6.00	0.00	0.849	1.29	-0.00
1.30	20.00	0.00	0.981	1.30	-0.00
1.32	26.00	0.00	1.046	1.32	0.00
1.33	2.00	0.00	0.822	1.33	-0.00
1.33	30.00	0.00	1.093	1.34	0.00
4.07	12.00	0.00	1.723	4.07	-0.00
4.09	6.00	0.00	1.556	4.09	0.00
4.09	20.00	0.00	1.962	4.09	0.00
4.11	2.00	0.00	1.447	4.11	-0.00
4.13	26.00	0.00	2.161	4.14	0.00
4.17	30.00	0.00	2.304	4.18	0.01
6.87	12.00	0.00	2.547	6.87	-0.00
6.87	6.00	0.00	2.259	6.87	0.00
6.88	2.00	0.00	2.070	6.88	0.00
6.90	20.00	0.00	2.950	6.90	-0.01
6.95	26.00	0.00	3.276	6.95	0.00
6.99	30.00	0.00	3.503	6.99	-0.01

$$\text{Oxygen (ml/l)} = \text{Soc} * (\text{V} + \text{Voffset}) * (1.0 + \text{A} * \text{T} + \text{B} * \text{T}^2 + \text{C} * \text{T}^3) * \text{OxSol}(\text{T}, \text{S}) * \exp(\text{E} * \text{P} / \text{K})$$

V = voltage output from SBE43, T = temperature [deg C], S = salinity [PSU], K = temperature [deg K]

OxSol(T,S) = oxygen saturation [ml/l], P = pressure [dbar]

Residual = instrument oxygen - bath oxygen

