

# Sea-Bird Electronics, Inc.

13431 NE 20th Street, Bellevue, WA 98005-2010 USA

Phone: (+1) 425-643-9866 Fax (+1) 425-643-9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 0463  
CALIBRATION DATE: 13-Feb-15

SBE 43 OXYGEN CALIBRATION DATA

COEFFICIENTS:  
Soc = 0.5723  
Voffset = -0.5259  
Tau20 = 1.38

A = -3.6202e-003  
B = 1.3286e-004  
C = -1.8566e-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)
1.31	6.00	0.00	0.792	1.31	-0.00
1.31	2.00	0.00	0.763	1.30	-0.00
1.32	12.00	0.00	0.839	1.31	-0.00
1.32	20.00	0.00	0.902	1.32	-0.00
1.35	26.00	0.00	0.959	1.36	0.00
1.36	30.00	0.00	0.997	1.37	0.01
4.09	6.00	0.00	1.363	4.10	0.00
4.10	2.00	0.00	1.271	4.10	-0.00
4.12	12.00	0.00	1.508	4.12	0.00
4.15	20.00	0.00	1.708	4.16	0.00
4.20	26.00	0.00	1.871	4.21	0.00
4.22	30.00	0.00	1.979	4.23	0.00
6.91	6.00	0.00	1.937	6.91	0.00
6.95	12.00	0.00	2.181	6.94	-0.00
6.95	2.00	0.00	1.790	6.95	-0.00
7.02	20.00	0.00	2.521	7.01	-0.00
7.12	26.00	0.00	2.801	7.12	0.00
7.13	30.00	0.00	2.974	7.12	-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

