

# 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: 1073  
CALIBRATION DATE: 14-May-15

SBE 63 OXYGEN CALIBRATION DATA

COEFFICIENTS:

A0 = 1.0513e+000    B0 = -2.1962e-001    C0 = 9.4636e-002    E = 1.1000e-002  
 A1 = -1.5000e-003    B1 = 1.6696e+000    C1 = 4.0307e-003  
 A2 = 4.5975e-001    C2 = 5.2571e-005

BATH OX (ml/l)	BATH TEMP (ITS-90)	BATH SAL (PSU)	INSTRUMENT OUTPUT (U)	INSTRUMENT OXYGEN (ml/l)	RESIDUAL (ml/l)
0.873	30.00	0.00	29.35	0.886	0.014
0.904	26.00	0.00	30.09	0.913	0.010
0.957	20.00	0.00	31.22	0.961	0.004
1.043	12.00	0.00	32.79	1.040	-0.003
1.157	6.00	0.00	33.81	1.156	-0.001
1.248	2.00	0.00	34.51	1.249	0.001
2.401	30.00	0.00	21.75	2.416	0.015
2.538	26.00	0.00	22.33	2.548	0.010
2.686	20.00	0.00	23.51	2.689	0.003
3.200	12.00	0.00	24.51	3.194	-0.006
3.618	6.00	0.00	25.50	3.613	-0.005
3.892	30.00	0.00	18.07	3.896	0.003
3.983	2.00	0.00	26.16	3.975	-0.008
4.157	26.00	0.00	18.50	4.158	0.001
4.580	20.00	0.00	19.27	4.574	-0.006
5.342	12.00	0.00	20.33	5.334	-0.008
5.514	30.00	0.00	15.60	5.507	-0.007
5.906	26.00	0.00	15.97	5.895	-0.010
6.088	6.00	0.00	21.20	6.085	-0.003
6.628	20.00	0.00	16.50	6.631	0.002
6.709	2.00	0.00	21.82	6.700	-0.009
7.664	12.00	0.00	17.52	7.669	0.005
8.671	6.00	0.00	18.37	8.680	0.010
9.119	2.00	0.00	19.31	9.126	0.007

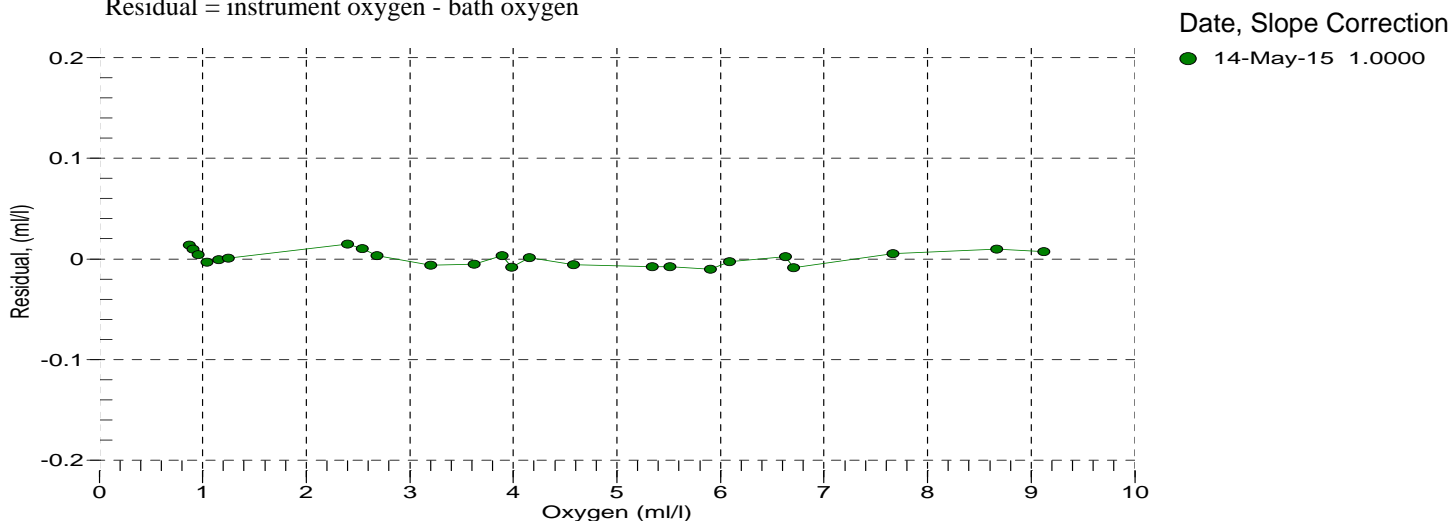
$$V = U / 39.457071$$

$$\text{Oxygen (ml/l)} = \{((A0 + A1 * T + A2 * V^2) / (B0 + B1 * V) - 1.0) / (C0 + C1 * T + C2 * T^2)\} * [\text{Scorr}] * \exp(E * P / K)$$

Note: [Scorr] = salinity correction function = 1.0 for calibration in DI water

T = temperature [deg C], K = temperature [Kelvin], P = pressure [dbar]

Residual = instrument oxygen - bath oxygen



# 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: 1073  
 CALIBRATION DATE: 14-May-15

SBE 63 OXYGEN TEMPERATURE CALIBRATION DATA  
 ITS-90 TEMPERATURE SCALE

**COEFFICIENTS:**

TA0 = 7.225850e-004    TA2 = 1.216076e-006

TA1 = 2.451048e-004    TA3 = 8.540035e-008

BATH TEMP (ITS-90)	INSTRUMENT OUTPUT(V)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
1.9999	1.12269	1.9999	-0.00002
2.0000	1.12269	1.9999	-0.00012
2.0000	1.12268	2.0002	0.00019
2.0001	1.12268	2.0002	0.00009
5.9999	0.99827	5.9998	-0.00010
6.0000	0.99827	5.9998	-0.00020
6.0000	0.99827	5.9998	-0.00020
6.0000	0.99826	6.0001	0.00014
11.9999	0.83205	12.0000	0.00008
12.0000	0.83205	12.0000	-0.00002
12.0000	0.83205	12.0000	-0.00002
12.0001	0.83204	12.0004	0.00027
19.9999	0.64788	19.9999	-0.00000
19.9999	0.64788	19.9999	-0.00000
19.9999	0.64788	19.9999	-0.00000
19.9999	0.64788	19.9999	-0.00000
26.0000	0.53551	26.0004	0.00041
26.0000	0.53552	25.9998	-0.00017
26.0000	0.53552	25.9998	-0.00017
26.0001	0.53552	25.9998	-0.00027
30.0000	0.47147	30.0002	0.00025
30.0000	0.47147	30.0002	0.00025
30.0001	0.47148	29.9996	-0.00052
30.0001	0.47147	30.0002	0.00015

Temperature ITS-90 =  $1 / (TA0 + TA1 * L + TA2 * L^2 + TA3 * L^3) - 273.15$  (°C)

L =  $\ln(100000 * V / (3.3 - V))$ ; V = thermistor voltage

Residual = instrument temperature - bath temperature

