

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 2082

SBE 43 OXYGEN CALIBRATION DATA

CALIBRATION DATE: 03-May-17

## COEFFICIENTS:

Soc = 0.4230

Voffset = -0.5408

Tau20 = 1.22

A = -3.4886e-003

B = 2.2818e-004

C = -3.2512e-006

E nominal = 0.036

## NOMINAL DYNAMIC COEFFICIENTS

D1 = 1.92634e-4

D2 = -4.64803e-2

H1 = -3.300000e-2

H2 = 5.00000e+3

H3 = 1.45000e+3

| BATH<br>OXYGEN (ml/l) | BATH<br>TEMPERATURE (° C) | BATH<br>SALINITY (PSU) | INSTRUMENT<br>OUTPUT (volts) | INSTRUMENT<br>OXYGEN (ml/l) | RESIDUAL<br>(ml/l) |
|-----------------------|---------------------------|------------------------|------------------------------|-----------------------------|--------------------|
| 1.08                  | 2.00                      | 0.00                   | 0.805                        | 1.07                        | -0.01              |
| 1.09                  | 6.00                      | 0.00                   | 0.838                        | 1.08                        | -0.01              |
| 1.10                  | 12.00                     | 0.00                   | 0.890                        | 1.10                        | -0.00              |
| 1.13                  | 20.00                     | 0.00                   | 0.963                        | 1.13                        | 0.00               |
| 1.16                  | 26.00                     | 0.00                   | 1.023                        | 1.16                        | 0.01               |
| 1.16                  | 30.00                     | 0.00                   | 1.058                        | 1.17                        | 0.01               |
| 3.86                  | 6.00                      | 0.00                   | 1.603                        | 3.86                        | -0.00              |
| 3.89                  | 2.00                      | 0.00                   | 1.496                        | 3.89                        | -0.00              |
| 3.89                  | 12.00                     | 0.00                   | 1.780                        | 3.89                        | 0.00               |
| 3.92                  | 20.00                     | 0.00                   | 2.007                        | 3.93                        | 0.01               |
| 3.94                  | 26.00                     | 0.00                   | 2.173                        | 3.94                        | 0.00               |
| 3.96                  | 30.00                     | 0.00                   | 2.291                        | 3.97                        | 0.00               |
| 6.69                  | 6.00                      | 0.00                   | 2.383                        | 6.70                        | 0.00               |
| 6.80                  | 2.00                      | 0.00                   | 2.214                        | 6.81                        | 0.00               |
| 6.82                  | 20.00                     | 0.00                   | 3.084                        | 6.81                        | -0.00              |
| 6.82                  | 30.00                     | 0.00                   | 3.548                        | 6.81                        | -0.00              |
| 6.85                  | 26.00                     | 0.00                   | 3.375                        | 6.85                        | -0.00              |
| 6.91                  | 12.00                     | 0.00                   | 2.739                        | 6.91                        | -0.00              |

V = instrument output (volts); T = temperature (°C); S = salinity (PSU); K = temperature (°K)

Oxsol(T,S) = oxygen saturation (ml/l); P = pressure (dbar)

Oxygen (ml/l) = Soc \* (V + Voffset) \* (1.0 + A \* T + B \* T<sup>2</sup> + C \* T<sup>3</sup>) \* Oxsol(T,S) \* exp(E \* P / K)

Residual (ml/l) = instrument oxygen - bath oxygen

