

# 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: 1508

SBE 43 OXYGEN CALIBRATION DATA

CALIBRATION DATE: 08-Apr-16

## COEFFICIENTS:

Soc = 0.5585

Voffset = -0.5009

Tau20 = 1.06

A = -4.0309e-003

B = 1.9471e-004

C = -3.1186e-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) |
|-----------------------|---------------------------|------------------------|------------------------------|-----------------------------|--------------------|
| 1.15                  | 2.00                      | 0.00                   | 0.714                        | 1.14                        | -0.00              |
| 1.15                  | 6.00                      | 0.00                   | 0.741                        | 1.15                        | -0.00              |
| 1.15                  | 12.00                     | 0.00                   | 0.782                        | 1.15                        | -0.00              |
| 1.18                  | 30.00                     | 0.00                   | 0.913                        | 1.18                        | 0.00               |
| 1.18                  | 20.00                     | 0.00                   | 0.841                        | 1.18                        | -0.00              |
| 1.18                  | 26.00                     | 0.00                   | 0.885                        | 1.18                        | 0.00               |
| 3.87                  | 6.00                      | 0.00                   | 1.311                        | 3.87                        | 0.00               |
| 3.87                  | 12.00                     | 0.00                   | 1.446                        | 3.88                        | 0.00               |
| 3.90                  | 2.00                      | 0.00                   | 1.227                        | 3.90                        | 0.00               |
| 3.91                  | 20.00                     | 0.00                   | 1.633                        | 3.91                        | 0.00               |
| 3.94                  | 26.00                     | 0.00                   | 1.781                        | 3.94                        | 0.00               |
| 3.96                  | 30.00                     | 0.00                   | 1.883                        | 3.96                        | 0.00               |
| 6.58                  | 6.00                      | 0.00                   | 1.879                        | 6.58                        | 0.00               |
| 6.62                  | 12.00                     | 0.00                   | 2.113                        | 6.62                        | 0.00               |
| 6.63                  | 2.00                      | 0.00                   | 1.737                        | 6.63                        | -0.00              |
| 6.65                  | 20.00                     | 0.00                   | 2.425                        | 6.65                        | -0.01              |
| 6.66                  | 30.00                     | 0.00                   | 2.824                        | 6.66                        | -0.01              |
| 6.68                  | 26.00                     | 0.00                   | 2.671                        | 6.69                        | 0.01               |

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

