

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 1348  
CALIBRATION DATE: 16-Jun-12

## SBE 43 OXYGEN CALIBRATION DATA

### COEFFICIENTS

Soc = 0.5499

Voffset = -0.5138

Tau20 = 1.25

A = -2.9584e-003

B = 1.4680e-004

C = -2.4828e-006

E nominal = 0.036

### NOMINAL DYNAMIC COEFFICIENTS

D1 = 1.92634e-4 H1 = -3.30000e-2

D2 = -4.64803e-2 H2 = 5.00000e+3

H3 = 1.45000e+3

| BATH OX<br>(ml/l) | BATH TEMP<br>ITS-90 | BATH SAL<br>PSU | INSTRUMENT<br>OUTPUT(VOLTS) | INSTRUMENT<br>OXYGEN(ml/l) | RESIDUAL<br>(ml/l) |
|-------------------|---------------------|-----------------|-----------------------------|----------------------------|--------------------|
| 1.22              | 2.00                | 0.11            | 0.743                       | 1.21                       | -0.00              |
| 1.22              | 6.00                | 0.10            | 0.771                       | 1.22                       | -0.00              |
| 1.23              | 12.00               | 0.09            | 0.815                       | 1.23                       | -0.00              |
| 1.25              | 20.00               | 0.07            | 0.878                       | 1.25                       | -0.00              |
| 1.26              | 26.00               | 0.06            | 0.925                       | 1.26                       | -0.00              |
| 1.26              | 30.00               | 0.05            | 0.957                       | 1.26                       | -0.00              |
| 4.07              | 2.00                | 0.11            | 1.285                       | 4.08                       | 0.01               |
| 4.08              | 6.00                | 0.10            | 1.379                       | 4.09                       | 0.01               |
| 4.09              | 12.00               | 0.09            | 1.520                       | 4.09                       | 0.01               |
| 4.09              | 26.00               | 0.06            | 1.857                       | 4.10                       | 0.01               |
| 4.10              | 20.00               | 0.07            | 1.711                       | 4.10                       | 0.00               |
| 4.11              | 30.00               | 0.05            | 1.964                       | 4.12                       | 0.01               |
| 6.75              | 30.00               | 0.05            | 2.890                       | 6.75                       | -0.01              |
| 6.80              | 20.00               | 0.07            | 2.497                       | 6.79                       | -0.00              |
| 6.82              | 26.00               | 0.06            | 2.747                       | 6.82                       | 0.00               |
| 6.85              | 12.00               | 0.09            | 2.197                       | 6.85                       | -0.00              |
| 6.98              | 6.00                | 0.10            | 1.992                       | 6.98                       | -0.00              |
| 7.05              | 2.00                | 0.11            | 1.846                       | 7.05                       | -0.00              |

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)

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

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

Date, Delta Ox (ml/l)

