

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1666  
CALIBRATION DATE: 25-Aug-10p

## SBE 43 OXYGEN CALIBRATION DATA

### COEFFICIENTS

Soc = 0.4894

Voffset = -0.5030

Tau20 = 1.29

A = -2.0953e-003

B = 1.1956e-004

C = -2.4427e-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) |
|-------------------|---------------------|-----------------|-----------------------------|----------------------------|--------------------|
| 1.24              | 2.00                | 0.01            | 0.765                       | 1.24                       | 0.00               |
| 1.24              | 6.00                | 0.02            | 0.796                       | 1.24                       | -0.00              |
| 1.25              | 12.00               | 0.02            | 0.845                       | 1.25                       | 0.00               |
| 1.26              | 20.00               | 0.02            | 0.912                       | 1.26                       | -0.00              |
| 1.26              | 26.00               | 0.02            | 0.965                       | 1.26                       | -0.00              |
| 1.27              | 30.00               | 0.02            | 1.003                       | 1.27                       | 0.00               |
| 4.14              | 2.00                | 0.01            | 1.381                       | 4.14                       | 0.00               |
| 4.15              | 6.00                | 0.02            | 1.485                       | 4.15                       | -0.00              |
| 4.15              | 12.00               | 0.02            | 1.643                       | 4.15                       | 0.00               |
| 4.16              | 26.00               | 0.02            | 2.026                       | 4.16                       | 0.00               |
| 4.16              | 30.00               | 0.02            | 2.146                       | 4.16                       | 0.00               |
| 4.16              | 20.00               | 0.02            | 1.857                       | 4.16                       | -0.00              |
| 6.71              | 30.00               | 0.02            | 3.152                       | 6.71                       | -0.00              |
| 6.72              | 26.00               | 0.02            | 2.963                       | 6.72                       | 0.00               |
| 6.73              | 20.00               | 0.02            | 2.695                       | 6.73                       | -0.00              |
| 6.74              | 12.00               | 0.02            | 2.352                       | 6.74                       | 0.00               |
| 6.81              | 6.00                | 0.02            | 2.114                       | 6.81                       | -0.00              |
| 6.84              | 2.00                | 0.01            | 1.954                       | 6.84                       | -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 [deg K]

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

Date, Delta Ox (ml/l)

