

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1663  
CALIBRATION DATE: 14-Dec-10p

## SBE 43 OXYGEN CALIBRATION DATA

### COEFFICIENTS

Soc = 0.3665

Voffset = -0.4586

Tau20 = 4.62

A = -1.5184e-003

B = 1.8649e-004

C = -4.0967e-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) |
|-------------------|---------------------|-----------------|-----------------------------|----------------------------|--------------------|
| 1.25              | 2.00                | 0.01            | 0.817                       | 1.27                       | 0.01               |
| 1.27              | 6.00                | 0.01            | 0.859                       | 1.27                       | 0.00               |
| 1.28              | 12.00               | 0.01            | 0.920                       | 1.28                       | 0.00               |
| 1.30              | 20.00               | 0.02            | 1.006                       | 1.29                       | -0.01              |
| 1.32              | 26.00               | 0.02            | 1.077                       | 1.31                       | -0.01              |
| 1.33              | 30.00               | 0.02            | 1.134                       | 1.32                       | -0.01              |
| 4.18              | 2.00                | 0.01            | 1.642                       | 4.19                       | 0.01               |
| 4.22              | 6.00                | 0.01            | 1.783                       | 4.21                       | -0.00              |
| 4.22              | 12.00               | 0.01            | 1.984                       | 4.22                       | 0.00               |
| 4.26              | 20.00               | 0.02            | 2.263                       | 4.26                       | 0.00               |
| 4.27              | 26.00               | 0.02            | 2.482                       | 4.27                       | -0.00              |
| 4.30              | 30.00               | 0.02            | 2.653                       | 4.30                       | 0.00               |
| 6.83              | 30.00               | 0.02            | 3.944                       | 6.83                       | 0.00               |
| 6.84              | 20.00               | 0.02            | 3.362                       | 6.85                       | 0.00               |
| 6.85              | 12.00               | 0.01            | 2.935                       | 6.85                       | 0.00               |
| 6.87              | 26.00               | 0.02            | 3.714                       | 6.87                       | -0.00              |
| 6.87              | 6.00                | 0.01            | 2.617                       | 6.87                       | -0.01              |
| 6.91              | 2.00                | 0.01            | 2.411                       | 6.91                       | -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)

