

# SEA-BIRD ELECTRONICS, INC.

13431 NE 20th Street, Bellevue, Washington, 98005-2010 USA

Phone: (425) 643 - 9866 Fax (425) 643 - 9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 0730  
CALIBRATION DATE: 11-Feb-11p

## SBE 43 OXYGEN CALIBRATION DATA

### COEFFICIENTS

Soc = 0.5323

Voffset = -0.5058

Tau20 = 1.30

A = -2.2412e-003

B = 1.0813e-004

C = -2.4610e-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) |
|-------------------|---------------------|-----------------|-----------------------------|----------------------------|--------------------|
| 1.23              | 6.00                | 0.01            | 0.774                       | 1.23                       | 0.00               |
| 1.23              | 2.00                | 0.01            | 0.746                       | 1.23                       | 0.00               |
| 1.23              | 12.00               | 0.02            | 0.818                       | 1.23                       | -0.00              |
| 1.25              | 20.00               | 0.02            | 0.883                       | 1.25                       | 0.00               |
| 1.26              | 26.00               | 0.02            | 0.934                       | 1.26                       | -0.00              |
| 1.26              | 30.00               | 0.02            | 0.971                       | 1.26                       | -0.00              |
| 4.14              | 6.00                | 0.01            | 1.406                       | 4.13                       | -0.01              |
| 4.14              | 20.00               | 0.02            | 1.754                       | 4.13                       | -0.00              |
| 4.14              | 30.00               | 0.02            | 2.032                       | 4.14                       | -0.00              |
| 4.15              | 2.00                | 0.01            | 1.315                       | 4.15                       | -0.00              |
| 4.15              | 12.00               | 0.02            | 1.556                       | 4.15                       | -0.00              |
| 4.16              | 26.00               | 0.02            | 1.921                       | 4.15                       | -0.00              |
| 6.58              | 30.00               | 0.02            | 2.931                       | 6.58                       | 0.00               |
| 6.60              | 26.00               | 0.02            | 2.753                       | 6.60                       | -0.00              |
| 6.64              | 20.00               | 0.02            | 2.510                       | 6.64                       | 0.00               |
| 6.66              | 6.00                | 0.01            | 1.957                       | 6.66                       | -0.00              |
| 6.66              | 12.00               | 0.02            | 2.194                       | 6.67                       | 0.01               |
| 6.67              | 2.00                | 0.01            | 1.807                       | 6.68                       | 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)

