

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 0185  
CALIBRATION DATE: 12-Nov-04p

SBE 43 OXYGEN CALIBRATION DATA

**COEFFICIENTS**

Soc = 0.3119

Boc = 0.0000

Voffset = -0.6915

TCor = 0.0021

PCor = 1.350e-04

| 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) |
|-------------------|---------------------|-----------------|-----------------------------|----------------------------|--------------------|
| 1.36              | 12.05               | 0.01            | 1.270                       | 1.39                       | 0.03               |
| 1.41              | 6.00                | 0.00            | 1.209                       | 1.42                       | 0.01               |
| 1.44              | 20.00               | 0.01            | 1.397                       | 1.46                       | 0.02               |
| 1.46              | 2.00                | 0.00            | 1.169                       | 1.45                       | -0.02              |
| 1.48              | 26.00               | 0.01            | 1.487                       | 1.48                       | 0.00               |
| 1.48              | 30.00               | 0.01            | 1.532                       | 1.47                       | -0.01              |
| 4.13              | 12.06               | 0.01            | 2.435                       | 4.19                       | 0.07               |
| 4.15              | 30.00               | 0.01            | 3.034                       | 4.10                       | -0.04              |
| 4.17              | 20.00               | 0.01            | 2.731                       | 4.21                       | 0.05               |
| 4.17              | 26.00               | 0.01            | 2.920                       | 4.16                       | -0.01              |
| 4.20              | 6.00                | 0.00            | 2.226                       | 4.22                       | 0.02               |
| 4.25              | 2.00                | 0.00            | 2.070                       | 4.17                       | -0.08              |
| 6.88              | 12.06               | 0.01            | 3.599                       | 7.00                       | 0.12               |
| 6.96              | 2.01                | 0.00            | 2.951                       | 6.84                       | -0.13              |
| 6.99              | 6.01                | 0.00            | 3.245                       | 7.02                       | 0.03               |
| 6.99              | 20.01               | 0.01            | 4.115                       | 7.07                       | 0.08               |
| 7.22              | 26.00               | 0.01            | 4.550                       | 7.20                       | -0.02              |
| 7.27              | 30.00               | 0.01            | 4.793                       | 7.19                       | -0.08              |

$oxygen\ (ml/l) = (Soc * (V + Voffset)) * exp(Tcor * T) * Oxsat(T,S) * exp(PCor * P)$

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

Oxsat(T,S) = oxygen saturation [ml/l], P = pressure [dbar]

Residual = instrument oxygen - bath oxygen

