# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1939
CALIBRATION DATE: 01-Sep-10p

SBE 43 OXYGEN CALIBRATION DATA

COEFFICIENTS

Soc = 0.4511
Voffset = -0.5375
Tau20 = 1.38

A = -2.6981e-003
B = 1.3229e-004
C = -2.2253e-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 (ml/l) | BATH TEMP ITS-90 | BATH SAL PSU | INSTRUMENT OUTPUT(VOLTS) | INSTRUMENT OXYGEN(ml/l) | RESIDUAL (ml/l) |
|---|---|---|---|---|---|
| 1.26 | 6.00 | 0.02 | 0.863 | 1.26 | -0.00 |
| 1.26 | 2.00 | 0.01 | 0.829 | 1.27 | 0.00 |
| 1.27 | 12.00 | 0.02 | 0.918 | 1.27 | 0.00 |
| 1.27 | 20.00 | 0.02 | 0.989 | 1.27 | -0.00 |
| 1.28 | 26.00 | 0.02 | 1.048 | 1.28 | -0.00 |
| 1.28 | 30.00 | 0.02 | 1.088 | 1.28 | 0.00 |
| 4.18 | 20.00 | 0.02 | 2.023 | 4.18 | -0.00 |
| 4.18 | 2.00 | 0.01 | 1.500 | 4.18 | -0.00 |
| 4.19 | 12.00 | 0.02 | 1.789 | 4.18 | -0.00 |
| 4.19 | 6.00 | 0.02 | 1.616 | 4.19 | 0.00 |
| 4.19 | 26.00 | 0.02 | 2.205 | 4.19 | -0.00 |
| 4.19 | 30.00 | 0.02 | 2.333 | 4.19 | 0.00 |
| 6.73 | 30.00 | 0.02 | 3.422 | 6.73 | -0.00 |
| 6.77 | 12.00 | 0.02 | 2.564 | 6.78 | 0.00 |
| 6.78 | 20.00 | 0.02 | 2.946 | 6.78 | -0.00 |
| 6.79 | 26.00 | 0.02 | 3.245 | 6.80 | 0.00 |
| 6.79 | 6.00 | 0.02 | 2.288 | 6.80 | 0.00 |
| 6.83 | 2.00 | 0.01 | 2.110 | 6.83 | -0.00 |

Oxygen (ml/l) = Soc * (V + Voffset) * (1.0 + A * T + B * $T^2$ + C * $T^3$) * 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