

Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 1685
 CALIBRATION DATE: 07-Dec-12

SBE 43 OXYGEN CALIBRATION DATA

COEFFICIENTS

Soc = 0.5779

Voffset = -0.5174

Tau20 = 1.53

A = -2.9764e-003

B = 1.2098e-004

C = -2.3344e-006

E nominal = 0.036

NOMINAL DYNAMIC COEFFICIENTS

D1 = 1.92634e-4

D2 = -4.64803e-2

H1 = -3.30000e-2

H2 = 5.00000e+3

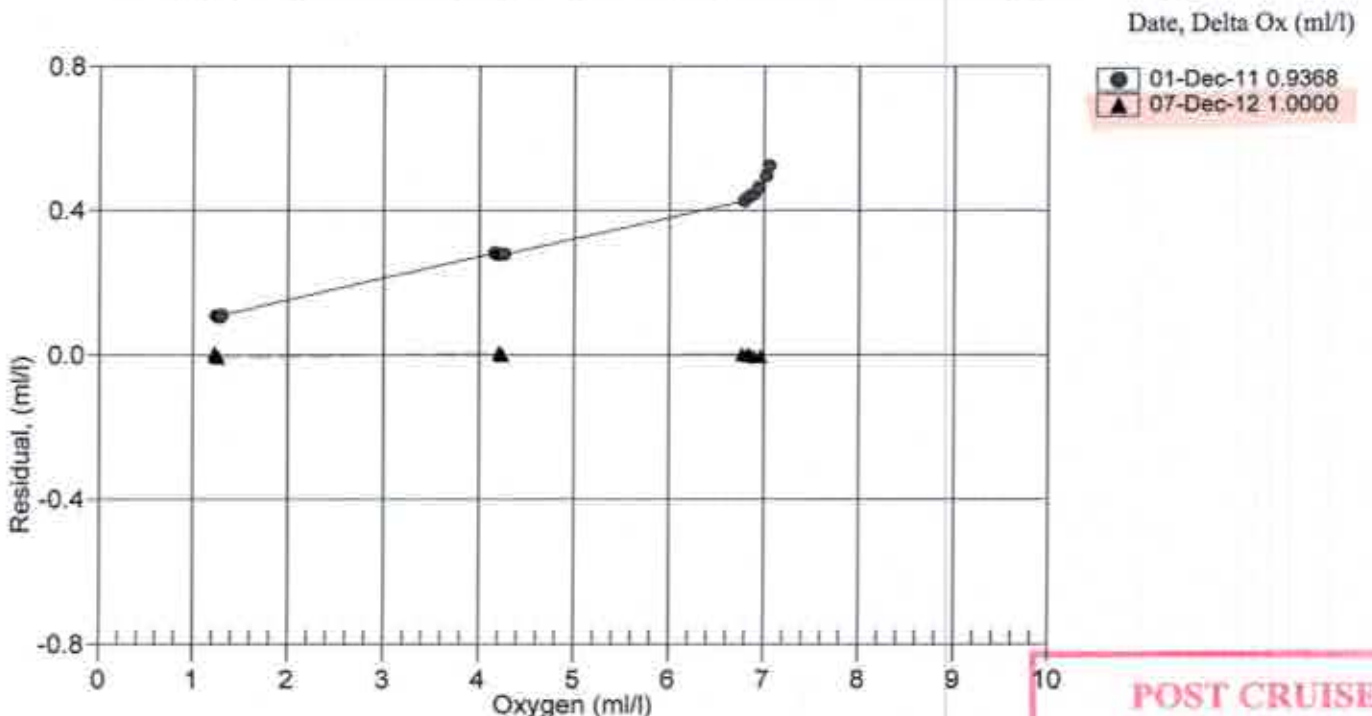
H3 = 1.45000e+3

BATH OX (ml/l)	BATH TEMP ITS-90	BATH SAL PSU	INSTRUMENT OUTPUT(VOLTS)	INSTRUMENT OXYGEN(ml/l)	RESIDUAL (ml/l)
1.22	2.00	0.05	0.738	1.22	0.01
1.23	6.00	0.04	0.765	1.23	0.00
1.24	12.00	0.04	0.807	1.23	-0.00
1.25	20.00	0.04	0.868	1.25	-0.01
1.26	26.00	0.04	0.914	1.25	-0.01
1.26	30.00	0.04	0.946	1.25	-0.01
4.21	6.00	0.04	1.366	4.21	0.01
4.21	2.00	0.05	1.276	4.22	0.01
4.21	12.00	0.04	1.507	4.22	0.00
4.23	20.00	0.04	1.704	4.23	0.00
4.23	30.00	0.04	1.966	4.23	-0.00
4.24	26.00	0.04	1.859	4.24	-0.00
6.77	30.00	0.04	2.834	6.77	0.00
6.82	20.00	0.04	2.429	6.82	-0.00
6.85	26.00	0.04	2.685	6.85	0.00
6.85	12.00	0.04	2.126	6.85	-0.00
6.89	6.00	0.04	1.905	6.88	-0.01
6.96	2.00	0.05	1.769	6.96	-0.00

$$\text{Oxygen (ml/l)} = \text{Soc} * (\text{V} + \text{Voffset}) * (1.0 + \text{A} * \text{T} + \text{B} * \text{T}^2 + \text{C} * \text{T}^3) * \text{OxSol}(\text{T}, \text{S}) * \exp(\text{E} * \text{P} / \text{K})$$

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

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



POST CRUISE CALIBRATION